OFFICIAL JOURNAL OF THE INTERSTATE POSTGRADUATE MEDICAL ASSOCIATION

Volume 17, Number 3

MARCH 1955

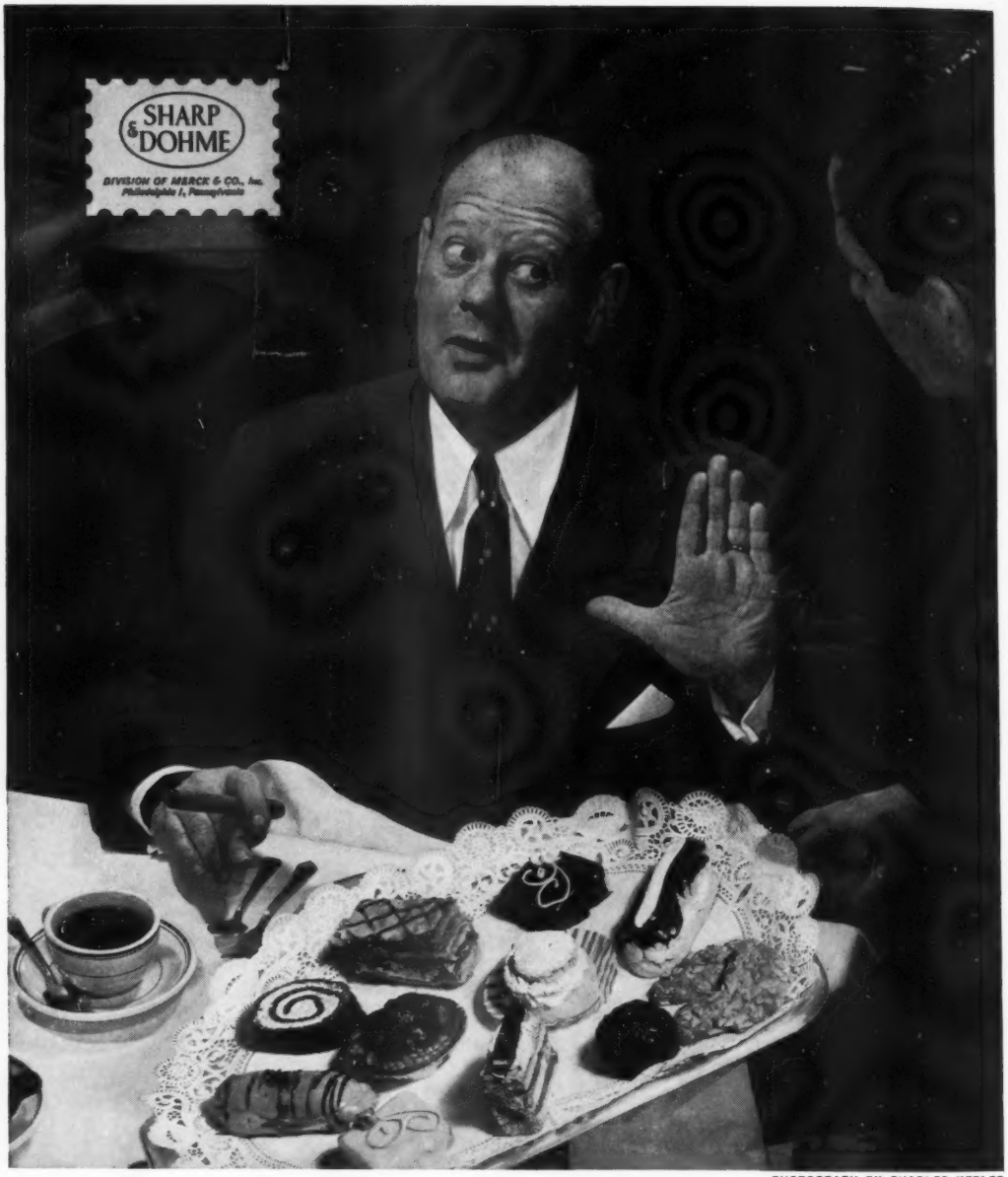
Postgraduate Medicine

A Special Issue covering the Newest Advances in Nutrition and Disease

NEW! — How to Handle the "Drug-Sensitive" Patient

Alexander's Reactions with Drug Therapy

See SAUNDERS Advertisement on pages A-14 and A-15



PHOTOGRAPH BY CHARLES KERLEE

He'll skip dessert and like it, too!

ALTEPOSE®

Most overweight patients need your help to pass up such rich foods—and still be content. ALTEPOSE provides *triple* action in obesity. 'Propadrine' curbs the appetite, Delvinal® controls nervous tension, and thyroid helps convert excess fat into energy.

Quick Information: A practical adjunct to low calorie diets, each ALTEPOSE tablet provides 50 mg. 'Propadrine,' 40 mg. thyroid and 25 mg. Delvinal. Dosage is one tablet two or three times a day, one-half to one hour before meals.

Postgraduate Medicine

Volume 17 · Number 3
MARCH · 1955

OFFICIAL JOURNAL OF THE INTERSTATE POSTGRADUATE MEDICAL ASSOCIATION

TABLE *of* CONTENTS

Special Issue: Nutrition and Disease see at end of bound vol.
GUEST EDITOR: Tom D. Spies, M.D.

Foreword
J. ROSCOE MILLER, M.D. 3
Comment. Nutrition and Metabolism
RICHARD H. YOUNG, M.D. 4
Introduction 5

SECTION I. ORAL SYMPTOMS AND SIGNS OF NUTRITIONAL DEFICIENCY 7

Case 1. Pellagra and Secondary Vincent's Infection 8
Case 2. Scurvy, Infantile Type 10
Case 3. Scurvy, Adult Type 11
Case 4. Blacktongue 13
Case 5. Nutritional Macrocytic Anemia 14
Case 6. Nontropical Sprue 15
Case 7. Recurrent Glossitis, Histamine-refractory Achlorhydria 17
Case 8. Idiopathic Hypochromic Anemia 18
Case 9. Pernicious Anemia in Relapse 20
Case 10. Stomatitis and Pharyngitis Due to Lack of Vitamin B_{12} 22
Case 11. Cheilosis Due to Loss of Vertical Dimension 23
Case 12. Allergic Cheilosis and Circumoral Dermatitis 24
Case 13. Allergy Due Chiefly to Irish Potatoes 25
Case 14. Acute Cheilosis Associated With Riboflavin Deficiency 26
Case 15. Gingivitis and Glossitis of Undetermined Origin 27
Case 16. Sensitivity to Acrylic Denture Base Material 29
Case 17. Extremely Abraded Teeth Without Evidence of Pain 31
Case 18. Dental Caries 32

SECTION II. DIETARY DEFICIENCIES AND DERMATOLOGIC DISEASES 34

Case 19. Pellagrous Dermatitis Secondary to Hypertensive Heart Disease 35
Case 20. Pellagra Secondary to Antiobesity Diet 37
Case 21. Pellagra Secondary to Tuberculosis 38

(Continued on page A-10)

Case 22. Endemic Pellagra Due to Inadequacy of Nicotinamide and Tryptophan ... 40
Case 23. Endemic Scurvy and Pitting Edema ... 44
Case 24. Pitting Edema Associated With Nutritional Macrocytic Anemia ... 45
Case 25. Chronic Wasting With Hypoproteinemia and Edema ... 46
Case 26. Cutaneous Lesions Arising From Lack of Vitamin A ... 48
Case 27. Nutritive Failure and Hypotension ... 49
Case 28. Lymphosarcoma and Lymphatic Leukemia ... 55
Case 29. Hyperthyroidism ... 56
Case 30. Lupus Erythematosus ... 58
Case 31. Pemphigus ... 61
Case 32. Allergic Dermatitis ... 63
Case 33. Allergic Dermatitis Due to Wrist Watch ... 65
Case 34. Dermatitis Secondary to Varicose Veins ... 66
Case 35. Dermatitis, Probably of Emotional Origin ... 67
Case 36. Purpura, Due to Decrease in the Number of Blood Platelets ... 68
Case 37. Loss of Skin Elasticity ... 68

SECTION III. NUTRIENTS IN CONVALESCENCE AND REHABILITATION ... 69
Case 38. Pellagrous Psychosis ... 70
Case 39. Polyneuritis (Beriberi) Due to Lack of Vitamin B_1 ... 71

IN ANXIETY AND TENSION
Sedation without hypnosis
IN HYPERTENSION
a safer tranquilizer and antihypertensive

Emergencies of the Respiratory System

WILLIAM R. BARCLAY* AND MARGARET F. BARCLAY**

University of Chicago School of Medicine, Chicago

EMERGENCIES of the respiratory tract may arise from hemorrhage, foreign bodies in the airway, collapse of lung tissue, pulmonary edema and also from asphyxial states.

WILLIAM R. BARCLAY

Hemorrhage

Hemorrhage is the most common emergency of the respiratory tract. Expectoration of a small amount of blood is a diagnostic emergency, but a massive hemorrhage is both a diagnostic and a therapeutic emergency. Hemoptysis is a symptom that invariably demands a careful investigation to determine its cause. Abbott[1] listed 50 conditions that produced hemoptysis in a series of 1,316 cases. Most of the causes listed were medical rarities, and the common causes were tuberculosis, bronchiectasis, bronchogenic carcinoma, mitral stenosis and tracheobronchitis. Whether one finds tuberculosis or bronchiectasis to be the commonest cause of hemorrhage depends on the nature and location of one's practice.

The severity of the hemorrhage does not reflect the seriousness of the underlying disease and bears little relationship to the type of the disease. However, a few generalizations may be made. In approximately one-third of cases of massive hemorrhage, bronchiectasis is the underlying disease. The most severe hemorrhages are associated with chronic abscess cavities, and, if tuberculosis is the cause of a massive hemorrhage, it is usually a chronic cavitary disease. Whatever the cause, death from an initial hemorrhage is extremely rare.

Treatment of massive bleeding consists of reassurance and sedation of the patient, diminution of but not suppression of cough, localization of the bleeding site, protection of the contralateral lung from aspiration, and complete immobilization of the patient.

One first should reassure the patient that he is in no immediate danger and that the bleeding can be controlled. The use of a barbiturate (SECONAL® sodium, 0.1 gm.) helps to allay

*Assistant Professor in Medicine, University of Chicago School of Medicine, Chicago, Illinois.

**Instructor, Department of Surgery, University of Chicago School of Medicine, Chicago, Illinois.

apprehension, and a small dose of codeine (0.032 gm.) diminishes cough without suppressing it entirely. Although morphine is an excellent drug to relieve apprehension, it may completely suppress the cough reflex and depress the respiratory center to a degree that will result in atelectasis. It, therefore, is preferable to limit the use of morphine in cases of pulmonary hemorrhage.

A careful physical examination will aid in localizing the bleeding site. Occasionally the patient experiences a warm, full sensation over the site of the bleeding, and he should be interrogated on this point. He tends to splint the affected side and frequently will lie on that side. Impaired resonance, diminished breath sounds and moist rales characterize the bleeding area. After the examination, the patient should be instructed to lie on the affected side and to remain in that position until the bleeding has ceased. This position minimizes aspiration into the opposite lung.

Only a few measures are of real value to suppress further bleeding. The most effective is to immobilize the patient. Sandbags should be placed on either side of and an ice bag should be placed on the patient's chest to restrict his movement. A hemorrhagic diathesis is rarely the cause of the hemorrhage, and measures to aid the clotting of blood, such as the administration of calcium and vitamin K, are not essential.

Trimble and Wood[2,3] have advocated the intravenous administration of PITUITRIN®. One cubic centimeter of obstetric Pituitrin or 0.5 cc. of surgical Pituitrin is diluted with 10 cc. of physiologic saline solution and injected into an arm vein over a period of 10 minutes. Pituitrin has, however, a constrictive effect on the coronary arteries, and this is potentiated by barbiturates. Therefore, one should not use a combination of Pituitrin and barbiturates for elderly patients or those suffering from coronary artery disease.

If medical management fails, collapse therapy may be tried. The safest form of collapse therapy is pneumoperitoneum. One should inject 1000 to 1500 cc. of air into the peritoneal cavity through a No. 19 needle introduced after the site of injection has been anesthetized with a 1 per cent solution of procaine hydrochloride. The most suitable site for introducing the needle is opposite the umbilicus and at the lateral edge of the left rectus muscle. The results of collapse therapy are, on the whole, disappointing. After the lung has been collapsed, the value for the hemoglobin and the erythrocyte cell volume per cent (hematocrit reading) should be determined repeatedly, and a record should be kept of the amount of blood lost. The estimated loss should be replaced by blood transfusions.

Roentgenographic examination of the thorax will reveal an abnormality in 75 per cent of cases of pulmonary hemorrhage, and this procedure is essential for proper diagnosis.[4] Bronchoscopy should not be performed for three or four days after massive bleeding has ceased. In cases of minor hemorrhage, however, bronchoscopy should be performed during the bleeding episode in order to facilitate localization of the underlying lesion. In 15 to 20 per cent of cases, even the most careful studies will fail to disclose the cause of the bleeding.

Case 1—A 47 year old white woman was admitted to the hospital on June 30, 1951, because she had coughed up blood on three occasions on the previous day. She had raised a half cupful of blood on each of the first two occasions and a pint of blood on the third occasion. Hemoptysis had not occurred previously, but she had had chronic sinusitis and a chronic cough since 1940. The cough had produced 2 tablespoonfuls of yellowish sputum per day.

When the patient was admitted to the hospital, her temperature was 39.2° C., her pulse rate was 104, and her blood pressure was 110 mm. of mercury systolic and 70 mm. diastolic. Physical examination disclosed impaired resonance and moist rales over the entire right side of the chest. The value for the hemoglobin was 12 gm. per 100 cc. of blood, and the hematocrit reading was 41 per cent.

The patient was inclined toward her right side. DEMEROL® hydrochloride, 100 mg. intramuscularly, and 0.09 gm. by mouth of phenobarbital were administered to control the restlessness, and 500 cc. of whole blood

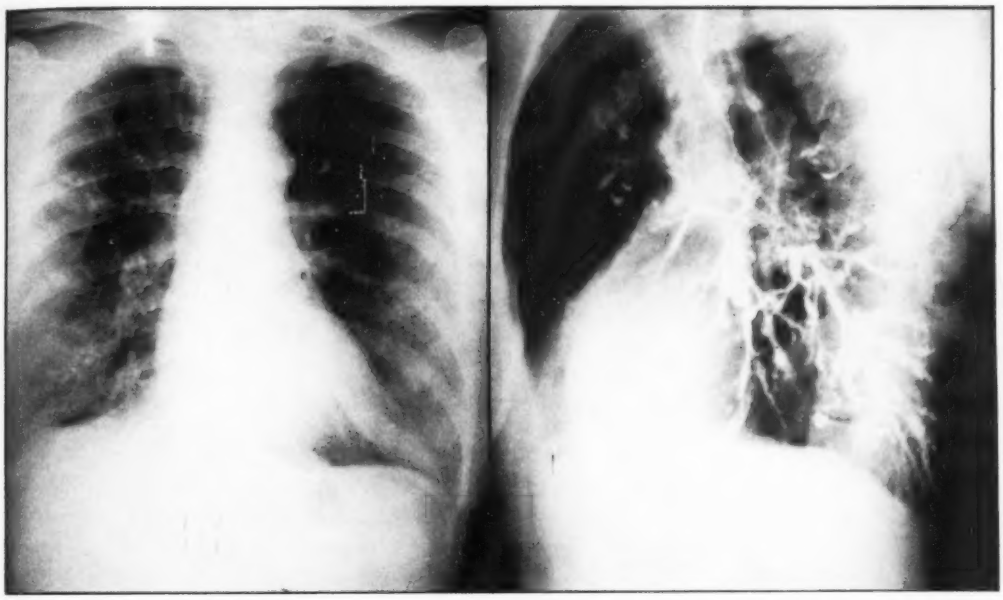


FIGURE 1, *case 1*. Extensive saccular and tubular bronchiectasis on right side.

was administered by transfusion. The bleeding continued, and the patient raised about 500 cc. of blood in the first 24 hours after she was admitted to the hospital. She was given a second transfusion of 500 cc. of blood, and the administration of Demerol hydrochloride and phenobarbital was continued. Vigorous bleeding continued throughout the next 48 hours, and the patient finally was immobilized completely by placing sandbags on either side and an ice bag on her chest. The bleeding stopped within eight hours after the patient was immobilized.

On July 13, bronchoscopy revealed only yellow mucopurulent material, mainly on the right side. Microscopic examination of smears of this material did not disclose any acid-fast bacilli. On July 30, bronchography disclosed extensive saccular and tubular bronchiectasis on the right side (figure 1). The bleeding has not recurred.

Aspiration of Foreign Bodies

Children are the most frequent victims of accidental aspiration, and the commonest offending material is vegetable matter,[5] such as peanuts, pieces of raw vegetable and fruit seeds. Metallic objects such as pins are less commonly aspirated.

If aspiration of a foreign body is suspected, the physician must definitely establish whether or not there is foreign material in the airway, not always an easy task. To adopt a wait-and-see attitude is to court disaster. Failure to remove a foreign body will result in suppurative lung disease, and may require pulmonary resection instead of bronchoscopy. In the examination one should observe carefully for any lag in the movement of the wall of the thorax, for diminished resonance and fremitus, and for diminished breath sounds. Cyanosis is evidence that one or more lobes is atelectatic or that partial obstruction exists in the larynx, trachea or a main-stem bronchus. Cyanotic patients should receive oxygen by mask or nasal catheter until the foreign body is removed.

If the site of the foreign body is obscure, postero-anterior roentgenograms of the thorax should be made at the end of full expiration

and full inspiration. Partial obstruction of a bronchus will produce a localized emphysema visible on the roentgenogram made at the end of full expiration. Complete obstruction of a bronchus will produce the characteristic wedge-shaped density of atelectasis. The film should be sufficiently exposed to reveal any metallic foreign body lying in the left lower lobe behind the heart shadow. This area is not visualized in underexposed films. A true lateral roentgenogram of the thorax is essential, and fluoroscopic examination will aid in deciding what oblique views might be valuable.

Once the presence of a foreign body has been established, or if any serious question of its presence exists, bronchoscopy should be performed by a competent bronchoscopist.

Case 2—On October 2, 1953, a 43 year old white man had choked on what he believed was a jelly bean. He had coughed the aspirated material back up within a few minutes. Prior to this episode, he had been in excellent health, but he subsequently had been troubled by a severe, racking, nonproductive cough. His family physician had made numerous roentgenograms but had not been able to make a diagnosis.

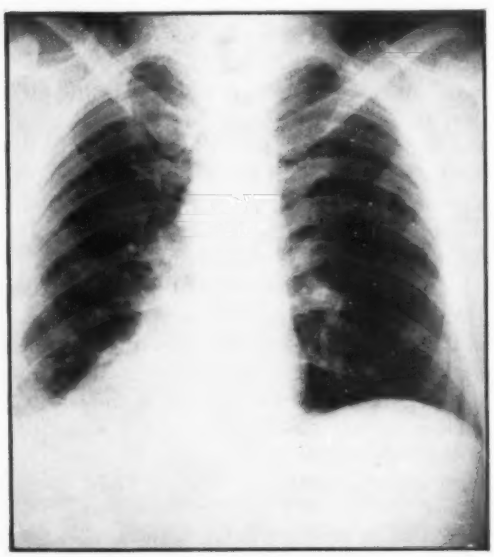


FIGURE 2, *case 2*. Mottled density in left costophrenic angle and patches of airless lung behind heart shadow.

When the patient was examined on April 30, 1954, he appeared healthy. The leukocyte count was 8500, and 62 per cent of the leukocytes were of the polymorphonuclear type. The thorax was resonant throughout, but the intensity of the breath sounds was slightly diminished over the base of the left lung, and expiratory wheezing was heard posteriorly over the lower lobe of the left lung. Roentgenographic examination revealed a mottled density in the left costophrenic angle and patches of airless lung behind the heart shadow (figure 2).

Bronchoscopy revealed that the left main bronchus was full of thick pus. After the pus was aspirated, a large foreign body was seen in the left posterior basal division of the left lower lobe. The foreign body was removed in three pieces, and it proved to be half of an almond. The patient's symptoms disappeared completely, and he now is entirely well.

Collapse of Lung Tissue

Spontaneous pneumothorax occurs most frequently in young adults, usually in the third decade of life. The patient is usually tall and slender. Cough and/or physical exertion is not necessarily a precursor of the pneumothorax, and the patient frequently is sitting or lying quietly at ease when the collapse occurs. He usually experiences a sudden sharp chest pain followed by cough and dyspnea. If the collapse is extensive, cyanosis develops. In rare instances no symptoms occur and the disease is diagnosed by routine roentgenographic examination of the thorax. Restricted movement, hyperresonance and diminished breath sounds characterize the side of the collapse. If the pressure in the pleural space becomes positive, one can detect a shift of the mediastinum toward the opposite side.

Treatment of spontaneous pneumothorax is governed by the amount of collapse and mediastinal shift, and by the presence or absence of bleeding. In cases in which less than 30 per cent of the lung is collapsed, bed rest is the only treatment necessary and re-expansion will occur within two to three weeks. If 30 to 50 per cent of the lung is collapsed, aspiration of the air is necessary to shorten convalescence.

By using a 1 per cent solution of procaine hydrochloride as a local anesthetic, a No. 17 needle is introduced through the second interspace in the midclavicular line. Air may be withdrawn by a 500 cc. syringe of a Wangensteen suction apparatus. If more than 50 per cent of the lung is collapsed, or if continuous leakage of air is present, the insertion of a No. 15 Foley catheter is recommended.[6] With the aid of local anesthesia, the catheter is introduced through a trocar in the second interspace in the midclavicular line. Suction should be applied at a pressure of less than 30 cm. of water until fluoroscopy reveals that the lung has re-expanded. Intermittent suction then should be used to keep the lung re-expanded.

If pronounced mediastinal displacement has occurred, the positive pressure in the pleural space should be relieved immediately by inserting a large-bore needle in the second or third anterior interspace. A finger cot placed over the end of the needle will serve as a makeshift valve, but, as soon as possible, the needle should be replaced by a catheter that can be used for underwater drainage or continuous suction.

Hemothorax is a more serious problem than simple pneumothorax. A fluid level visualized on the roentgenogram and bloody fluid obtained by thoracentesis establish the diagnosis. Failure to remove all the blood will result in fibrosis and contracture of the affected side, and extensive pleural calcification may occur.

The preferred course of treatment is open thoracotomy[7] with thorough washing of the pleural space and careful hemostasis followed by closure and tube drainage. An alternative method of treatment includes the insertion of two catheters. One is inserted anteriorly and directed toward the apex; the other is inserted laterally and directed toward the base. A solution of VARIDASE® (200,000 units of streptokinase and 50,000 units of streptodornase) is then injected into the pleural space and allowed to remain there for one-half to six hours. The pleural space then is thoroughly irrigated with physiologic saline solution, and the catheters are attached to a continuous suction apparatus. When continuous tube drainage is used, 100,000 units of penicillin should be administered daily.

Case 3—A 19 year old white male, who previously had enjoyed excellent health, had experienced a sharp pain in the left deltoid region when he had arisen on the morning of June 29, 1954. While he was eating breakfast, the pain in his shoulder had become more severe and had extended to the left side of

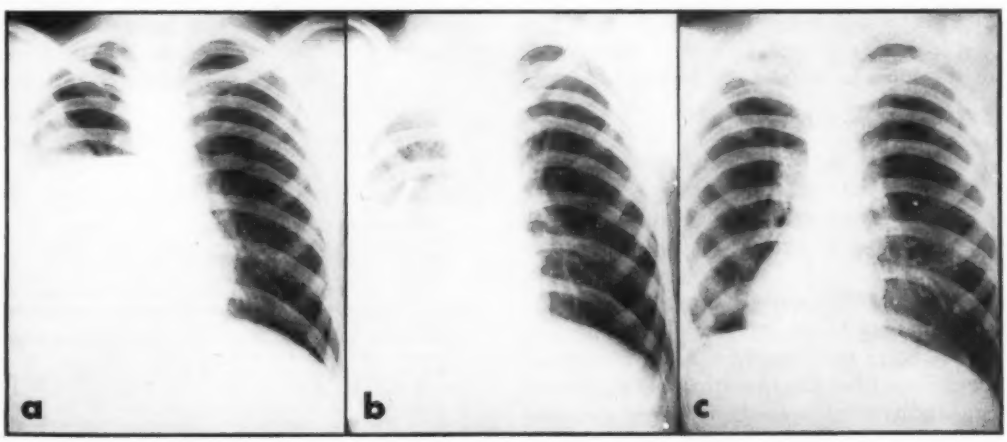


FIGURE 3, *case 3.*
a. Pneumothorax with high level of fluid.
b. Catheters introduced in eighth interspace (posteriorly) and in third interspace at axillary line.
c. Roentgenographic appearance after recovery.

the chest. The pain then had become crushing in character, and severe dyspnea had developed. He had assumed a crouched position with his arms wrapped about his chest, and had gasped for breath. His family physician had administered morphine and had sent the patient to a local hospital. Roentgenographic examination of the thorax and thoracentesis had resulted in a diagnosis of hemopneumothorax. A transfusion of blood was given, and the patient was referred to the University of Chicago Clinics.

Roentgenographic examination revealed a pneumothorax with a high fluid level (figure 3a). On July 8, with the aid of general anesthesia, a No. 24 F. catheter was introduced posteriorly in the eighth intercostal space, and a No. 10 F. catheter was introduced in the third interspace at the anterior axillary line (figure 3b). Thirteen hundred cubic centimeters of sanguineous fluid was obtained immediately. On July 10, Varidase (100,000 units of streptokinase and 25,000 units of streptodornase in 20 ml. of physiologic saline solution) was introduced into the lower tube and aspirated one-half hour later. On July 13, 14, 18, 20 and 23, Varidase was injected and left in the pleural space for one hour. On each occasion, the injection was attended by a chill and the patient's temperature increased to 39° C. The catheters were removed on July 26. The patient is now working and well. Figure 3c shows the roentgenographic appearance of the lung on October 6, 1954.

Pulmonary Edema

Pulmonary edema may be cardiac, infectious, toxic or traumatic in origin. The patient experiences anxiety, dyspnea, orthopnea and finally a cough productive of frothy and often blood-tinged fluid. Examination will reveal the signs of shock, namely, a weak, rapid pulse and a falling blood pressure. Bubbling rales will be heard over the chest. Aside from treatment directed at the causative factor, therapy consists of subcutaneous injections of morphine in doses of 0.015 gm., the administration of oxygen under positive pressure and the use of antifoaming agents. Oxygen should be administered with a meter injector mask at a pressure of 4 cm. of water, and the pressure should be lowered 1 cm. every one to four hours as the edema clears. Thirty per cent ethyl alcohol placed in the oxygen humidifier has an antifoaming action and is a useful adjunct in the treatment.

Asphyxial States

Treatment of asphyxial states consists of restoring a clear airway and applying artificial respiration. A pharyngeal airway should be inserted to keep the tongue away from the hypopharynx, and the patient should be placed in the prone position to facilitate drainage of fluid from the respiratory passages. Gordon and his associates[8] have compared the many different methods of artificial respiration and have found that the most satisfactory is the Holger-Nielsen method. The patient is placed in a prone position with his arms folded and his hands resting on each other. The face is turned to one side and placed on the hands. One should kneel near the patient's head, grasp his elbows, pull them forward and raise them. This lengthens the spinal column, raises the rib cage, and brings about inspiration. Expiration is brought about by releasing the elbows and placing the hands on the patient's midback and rocking forward and pressing vertically downward. This cycle is repeated 12 times a minute. On anesthetized, curarized patients, this method produced a tidal exchange of 1,056 cc. and an arterial oxygen saturation of 93 per cent.

REFERENCES

1. Abbott, O. A.: Clinical significance of pulmonary hemorrhage; a study of 1316 patients with chest disease. Dis. Chest 14:824 (November-December) 1948.
2. Trimble, H. G. and Wood, J. R.: Control of pulmonary hemorrhage by intravenous use of pituitrin. California Med. 76:155 (March) 1952.
3. Trimble, H. G. and Wood, J. R.: Pulmonary hemorrhage; its control by the use of intravenous pituitrin. Dis. Chest 18:345 (October) 1950.
4. Souders, C. R. and Smith, A. T.: Clinical significance of hemoptysis. New England J. Med. 247:790 (November 20) 1952.
5. Barrett, J. H.: Foreign bodies in the air and food passages. Arch. Otolaryng. 54:651 (December) 1951.
6. Kreutzer, F. L., Brizzolara, L. G. and Rogers, W. L.: Treatment of spontaneous pneumothorax by means of continuous intrapleural suction. Dis. Chest 21:663 (June) 1952.
7. Ross, C. A.: Spontaneous hemopneumothorax. J. Thoracic Surg. 23:582 (June) 1952.
8. Gordon, A. S., Sadove, M. S., Raymon, F. and Ivy, A. C.: Artificial respiration. Postgrad. Med. 11:528 (June) 1952.

Immediate Care of Soft-tissue Wounds

THOMAS C. DOUGLASS*

Northwestern University Medical School, Chicago

THOMAS C. DOUGLASS

SOFT-TISSUE injuries are often neglected because of the minor nature of most such wounds. Delayed or improper care may result in infection, prolonged wound care, unnecessary scarring and permanent disability. I will outline a simple, effective method for treating soft-tissue wounds in the doctor's office or emergency room. Hospital care will only be mentioned.

First Aid

Effective first aid is as important for wounds as for fractures, but it is often neglected or misguided. A wound should be covered immediately with the cleanest material available, and the patient brought to a physician at once for definitive care. A sterile dressing is ideal, but a freshly laundered towel, napkin or handkerchief serves almost as well. Application of pressure to this dressing will control hemorrhage effectively unless a major artery has been divided. Bleeding can be satisfactorily controlled, even from the radial artery, by local pressure. A tourniquet should not be applied if this can be avoided, since harmful effects often follow too great pressure on blood vessels and nerves. Use of a splint improvised from a newspaper or magazine prevents further injury and pain from motion of the injured part. Unsterile instruments should never be used in attempts to control hemorrhage, since they frequently contaminate an otherwise clean wound. If the patient will reach a doctor within a few hours, no attempt should

*Late Associate Professor of Surgery, Northwestern University Medical School, and Passavant Memorial Hospital, Chicago, Illinois. This article was prepared for publication in POSTGRADUATE MEDICINE by Dr. Douglass just prior to his death in the fall of 1954.

be made to clean the wound. If a delay of 6 to 12 hours occurs, soap-and-water cleansing under the best conditions obtainable should be considered, although this is not always safe.

Inspection or extensive examination of a wound is not advised in first-aid care. Introduction of bacteria by droplets from the nose or mouth of the examiner, contamination of deeper tissues by retraction of a divided tendon, or introduction of foreign bodies is to be assiduously avoided.

History

When the patient reaches a physician, a detailed history should be obtained, including the exact time of injury, the mechanism of the injury, the wounding instrument, and information on first-aid care administered. Such information may provide a clue to the extent of the injury—lacerated tendons, nerves and blood vessels—and certainly indicates likely sources of contamination. (Street accidents are more likely to produce tetanus spore contamination; human bites are never clean enough to close.)

Examination

The injured part is examined carefully, using sterile precautions including adequate masking. The original dressing is removed only if facilities are readily available for definitive care. If examination reveals compounding of the wound by division of nerves, tendons or bones, the patient is hospitalized immediately; such injuries cannot be treated satisfactorily under local anesthesia in a doctor's office or an emergency room.

Treatment

Treatment of soft-tissue wounds will be considered separately according to the type of injury and the amount of contamination. The avoidance of further injury is to be repeatedly stressed.

Simple incised wounds—If an incised wound is not grossly contaminated, and if the patient is seen within 6 to 12 hours after injury, an area about the wound is shaved and cleansed with plain white soap and sterile water for 10 minutes. The operator wears cap, mask and sterile gloves, and protects the wound itself with a pack of sterile gauze. The wound is then irrigated thoroughly with sterile saline solution or water. Local anesthesia is induced by infiltrating the surrounding area with 0.5 or 1 per cent procaine solution. Gangrene has resulted from the use of epinephrine for local anesthesia, particularly in finger injuries, and this agent is not used. Performing a nerve block proximal to the injured area is a satisfactory method of inducing anesthesia. Patients with larger wounds may require general anesthesia with PENTOTHAL® sodium, nitrous oxide or ethylene, but in most cases local anesthesia is preferred.

The wound is closed with interrupted mattress sutures of nonabsorbable fine silk or Dermalon, with or without apposition sutures between. Buried sutures are best kept to a minimum, since they add to the risk of infection. Carefully placed subcuticular sutures of very fine silk (6-0) may be helpful in some facial lacerations, particularly if they are inverted so that the knot retracts below. Sutures used in closing wounds are placed close to the skin edges and tied just tightly enough to bring the edges together accurately. Fine sutures so placed in wounds of the face or exposed extremities leave a minimal amount of scarring, and ugly crosshatching of wounds is avoided, particularly if the sutures are removed early. Sutures on the face or neck frequently can be removed after 48 to 72 hours if the wound was clean.

The wound is covered completely with a sterile dressing which includes some fluffed-up gauze, and an elastic bandage is applied to provide gentle but firm pressure over the dressing. A splint will make healing more certain and rapid; a tongue blade may be used as a finger splint, and an aluminum or a plaster molded splint for wounds on the extremities.

The wound is kept dry and inspected only every other day until the sutures are removed. When the wound is inspected, the patient's temperature should be recorded, the regional lymph nodes gently palpated, the wound examined for unusual redness or swelling, and the patient questioned as to pain. Persistent pain, redness, excessive swelling and lymphad-

enopathy indicate wound infection. The presence of extreme pain, high fever and a rapid pulse suggest the possibility of gas infection or gangrene.

The time for removal of sutures varies with the extent of the wound, its location and its cleanliness. Sutures can be removed from clean facial wounds within 48 to 72 hours in most cases. In cases of wounds of the plantar surface of the foot or the palmar surface of the hand, sutures should not be removed for 10 to 14 days because of the poorer circulation and the thickness of the epithelium in these areas. For other wounds, sutures may be removed in four to seven days, depending on the progress of healing. The earlier they are removed, the less scarring will result. The protection of a freshly healed wound by adhesive bridges is important. Wounds treated by the above technic heal almost uniformly well, and antibiotics need not be given. The subject of tetanus prophylaxis will be discussed separately.

If the patient is seen by the physician 12 or more hours after injury, the wound is best treated as a potentially infected one. Cleansing is done, and the wound is dressed and splinted without sutures. Such wounds frequently heal very satisfactorily, particularly if splinting is adequate. In most cases penicillin should be administered; 300,000 to 600,000 units on one or two successive days usually is adequate.

Lacerated wounds—Contused or ragged lacerations often may be converted into simple incised wounds by excising the wound edges after proper cleansing, and closure may then be done as for incised wounds. One must be careful to remove all devitalized, crushed or ragged tissue, which interferes with healing and provides an excellent medium for the growth of pathogenic bacteria. Wound excision may result in a defect that cannot be closed without tension, in which case the edges may be undermined to release the tension. Relaxing incisions may be helpful. At times such a wound is best covered with a skin graft or left open, although the latter is a poor second choice. Administration of penicillin is a worthwhile adjunct in the treatment of such wounds.

Badly crushed lacerations should be cleansed and excised and are usually left open to heal by secondary intention, particularly if devitalized tissue remains or if tension is too great to permit closure. It is in wounds of this type that gas gangrene or tetanus most frequently occurs.

The importance of covering exposed tendon or bone with viable skin and subcutaneous tissue is to be kept in mind at all times.

Puncture wounds—Puncture wounds are treated with the same respect as a larger wound. The area about the wound must be carefully cleansed, and the wound is then excised or explored under local anesthesia if one suspects that dirt or bits of clothing were carried in with the wounding instrument. A sterile dressing and a splint are applied. Crutches are prescribed if the foot is involved. Frequent dressings and daily warm, sterile, soapy soaks help maintain free drainage and thus hasten healing without infection. All patients with such wounds receive tetanus prophylaxis; 1500 units of antitoxin is the minimal dose and sometimes a 3000 unit dose is given. If the patient was previously immunized with toxoid, a booster injection of 0.5 cc. is given. Patients should be seen daily to detect evidence of infection early. Penicillin, 300,000 units daily for two or three days, is indicated in most cases of puncture wounds.

Compound and badly contaminated wounds—If a patient with a wound which involves tendons, nerves, blood vessels or bone is seen within four to six hours after injury and if the wound is not badly contaminated, a sterile dressing is applied and the patient hospitalized. If the patient cannot be hospitalized at once, or if 6 to 12 or more hours have elapsed since injury, the wound is cleansed carefully and the skin accurately closed over the tendon, nerve or bone. Definitive repair is delayed until a secondary operation can be done.

Splinting is especially important in cases of such injuries to prevent retraction of the injured parts and to provide rest. Adequate splinting of such an injury involving an extensor tendon of a finger frequently yields a good functional result without actual suture of the tendon. Flexor tendons, however, must

be repaired secondarily six weeks to three months later.

If a patient with a badly contaminated wound is seen too late (12 hours or more) for the treatment outlined, the wound may be cleansed, thoroughly débrided and treated as a potentially infected wound. It probably is best not to close such wounds but rather to apply sterile dressings, splints and, if indicated, massive warm, moist dressings. Penicillin in adequate dosage, 300,000 to 600,000 units, may be administered. Tetanus prophylaxis and even anti-gas bacillus antitoxin sometimes are used. After three to seven days the wound is inspected. If it is clean, it may be closed secondarily as was done so successfully in Europe during World War II.[1] A few skin sutures to bring the clean edges together is all that is justified in such cases. Splinting is again mandatory.

Human bites—Wounds produced by human bites are sustained most often when a blow aimed at the chin misses its mark and the incisor teeth penetrate the skin of the dorsa of the fingers or hand. Other wounds caused by human bites also occur. These wounds are considered separately because of the varied and virulent bacteria which are commonly found in the human mouth. Mason and Koch[2] have contributed to our understanding of the spread of these infections, and Meleney[3] has shown that the anaerobic *Streptococcus*, fusiform bacilli, and spirochetes are most often responsible for the undermining, spreading infection that usually follows. Injuries to extensor tendons are not uncommon. These wounds should never be sutured.

Treatment of these wounds includes the following:

1. Cleansing with soap and water as for any other wounds.
2. Local or general anesthesia, depending on the extent of the wound.
3. Excision of the wound edges, being certain to leave no overhanging edges.
4. Secondary repair of tendon injuries.
5. Warm, moist dressings, changed daily.
6. Penicillin, 300,000 units, given daily.
7. Splinting in the position of function.
8. Tetanus prophylaxis.
9. Free drainage of any infected pockets. (Activated zinc peroxide is believed by some[3] to be helpful.)
10. Skin grafting, if required, to close the defect after the infection has subsided and the granulations are clean.

Dog bites—Treatment of dog bite injuries involves (1) local treatment of the wound and (2) prevention of rabies.

Local treatment of the wound consists of:

1. Cleansing with soap and water.
2. Local anesthesia.
3. Excision of the wound, leaving no overhanging edges, devitalized tissue, foreign bodies, or undrained pockets.
4. Sterile dressing.
5. Rest of the part (splinting, crutches, etc.).
6. Tetanus prophylaxis.
7. Daily warm, soapy soaks.
8. Penicillin, 300,000 units daily.

The time-honored place of fuming nitric acid has been pre-empted by gentle cleansing since the strong acid produces unnecessary and extensive tissue destruction. These devitalized tissues serve as excellent culture media. More harm has been done by too vigorous, misguided treatment of dog bite injuries than by the injuries themselves. Rarely do dog bites follow a course similar to human bite infections, but the wounds should not be closed.

Prevention of rabies—The most effective means of preventing the spread of rabies is the impounding of all stray animals and the compulsory vaccination of all household pets. This program, vigorously enforced, should eradicate to a large extent the necessity of treating the disease in humans. Early, cleansing care of the wound locally, avoiding tissue injury, should go far toward preventing ocurrence of infection.

The circumstances surrounding the cause of an animal bite are frequently helpful in deciding the course of treatment. A rabid animal will bite with little or no provocation. The offending animal is caught and placed under observation for 10 days. Qualified veterinarians can detect signs of disease in the animal early and help decide the course to be pursued. The animal must not be killed early, as

TABLE 1

INDICATIONS FOR RABIES VACCINE TREATMENT

NATURE OF EXPOSURE	CONDITION OF BITING ANIMAL		DECISION AS TO VACCINE TREATMENT AT TIME OF POSSIBLE EXPOSURE
	At time of exposure	*During observation (10 days)*	
1. No lesions; indirect contact only	Healthy or rabid	Healthy or rabid	None
2. Licks: skin or mucosa			
a. Unabraded	Healthy or rabid	Healthy or rabid	None
b. Abraded	Healthy	Healthy	None
	Healthy	Clinically suspicious or proved rabid	Start treatment at appearance of first suspicious signs
	Suspicious	Healthy	Start treatment immediately; stop treatment if animal remains normal for three days
	Animal rabid, escaped, killed or unknown		Start treatment immediately!
3. Bites	Healthy	Healthy	No treatment unless bites are multiple or on face, head or neck; then start treatment immediately. Stop if animal remains normal for three days
	Healthy	Clinically suspicious or proved rabid	Start treatment at appearance of first suspicious signs
	Suspicious	Healthy	Start treatment immediately; stop treatment if animal remains normal for three days
	Animal rabid, escaped, killed or unknown; or any bites by jackal, wolf, fox or other wild animal		Start treatment immediately!

Note: Bites on the head, neck and shoulder, deep multiple wounds, and those inflicted by wild animals involve a greater degree of risk, and patients should be treated accordingly.

laboratory findings will not be clear enough for a definitive diagnosis. If the animal is obviously sick and is killed or dies, its brain is examined by a public health laboratory. If no disease is present the patient needs no treatment. If disease exists, Pasteur therapy or a modification of this routine (14 days) is undertaken at once. If the animal cannot be apprehended or if serious bites have occurred about the face, neck or shoulders, treatment is started at once.

Table 1, adapted from the World Health Organization Technical Report,[4] summarizes the indications for rabies vaccine treatment. Danger is not minimal from this treatment. More patients die or develop paralysis or encephalitis as a result of the treatment than die of rabies.[5] This fact should not prevent administration of the vaccine if the indications are present, but it should make clear the necessity for thorough study of the animal. Such a routine will eliminate the necessity for treatment in most cases.

Tetanus

Tetanus is a systemic disease caused by the anaerobic *Clostridium tetani*. The neurologic disturbances are so severe and the mortality rate so high that strong preventive measures are warranted.

Prophylaxis—Probably the most effective preventive measure for tetanus is good surgical care of wounds. Active immunization of persons likely to be injured is next in importance. Failing the latter, passive immunization by tetanus antitoxin, 1500 to 3000 units, every week until the danger has passed is accepted therapy.

Wound care to prevent tetanus infection consists essentially of thorough débridement of all wounds, leaving no dead or devitalized tissue. Excision of crushed wound edges or devitalized muscle or fascia is important. If there is a question of the adequacy of this procedure, the wound should be left open with no overhanging edges. Penicillin, 300,000 units, should be given daily.

Tetanus toxoid, which is given routinely by most pediatricians during immunization for diphtheria, produces a lasting immunity which can be stimulated by a booster dose of 0.5 cc. of toxoid at the time of the injury. Three to six weeks are required before a satisfactory titer of antitoxin is produced, so tetanus toxoid is not to be relied on for an individual wound unless it has been given previously. Since it contains no horse serum, it is far safer than tetanus antitoxin.

Tetanus antitoxin is given in doses of 1500 to 3000 units at the time of injury if toxoid has not been given previously. This should be repeated every week to 10 days unless toxoid is given at the same time, since passive immunity lasts only for this period. This is effective treatment but it must be kept in mind that antitoxin is contained in horse serum and that lack of sensitivity to this foreign protein must be demonstrated before administration. This is done by injecting a drop of a 1:10 dilution antitoxin intradermally. A positive reaction consists of the production of a wheal with surrounding redness in 20 to 30 minutes. If the reaction is positive, the serum may be given in small doses, gradually increased over a period of six to eight hours. An antihistamine as well as epinephrine must be available. An anaphylactic response should be treated rapidly by means of subcutaneous administration of 0.5 to 1 cc. of 1:1000 epinephrine solution. A history of allergy, hay fever, asthma, or sensitivity to horse dander should indicate extreme caution in giving antitoxin.

Late reactions consisting of urticaria, joint pains and swelling are called serum sickness and may occur 5 to 10 days after administration of the antitoxin. Although epinephrine will give some temporary relief, the antihistamines such as PYRIBENZAMINE® or BENADRYL® in doses of 50 mg. every four hours for an adult are more effective. This dose may be doubled if no relief is obtained in 24 hours. More effective still is ACTH, which produces a dramatic subsidence in most cases. A single dose of 40 to 60 mg. in the slow-absorbing gel form is often sufficient. A repeat dose of 20 mg. the following day may be given in severe cases.

Which patients should receive tetanus prophylaxis? This is a difficult question to answer, since tetanus has occurred following the most trivial, apparently clean wounds. I give either toxoid or tetanus antitoxin to almost all wounded individuals. Particularly is this necessary in cases of wounds contaminated or possibly contaminated by street dirt. Wounds sustained about a stable or other area where horses are kept are apt to be contaminated with tetanus spores. Clean wounds sustained indoors in the kitchen or bathroom and caused by clean instruments are less likely to produce tetanus infection, but even these are possible sources of the disease. Frequently a course of toxoid immunization is started simultaneously with the injection of antitoxin so that a second dose of antitoxin later is unnecessary.

Recognition of tetanus once it has developed is not always easy. The wound may have apparently healed before systemic symptoms of spasticity, muscular irritability and finally rigidity and coma supervene. Death is usually caused by muscular spasms producing asphyxia. The spores may be recovered from the tissues about the wound. Suspicion of active tetanus infection indicates immediate hospitalization with excision of the wound, constant nursing care, constant marked sedation, and antitoxin in large doses.

REFERENCES

1. Churchill, E. D.: Surgical management of wounded in Mediterranean Theater at time of fall of Rome. Ann. Surg. 120:268-283, 1944.
2. Mason, M. L. and Koch, S. L.: Human bite infections of the hand. Surg., Gynec. & Obst. 51:591-625, 1930.
3. Melenky, F. L.: Clinical Aspects and Treatment of Surgical Infections. Philadelphia, W. B. Saunders Company, 1949.
4. World Health Organization: Technical Report Series, No. 28, 1950.
5. Editorial, Illinois M. J. 103:65, 1953.

Renal Failure in Infancy

PHILIP L. CALCAGNO*

University of Buffalo School of Medicine, Buffalo

PHILIP L. CALCAGNO

ATTEMPTS on the part of physicians to pigeonhole various forms of renal insufficiency under already-named clinical entities have proved to be a serious handicap in the proper evaluation and therapy of kidney disease. Today, greater emphasis is being placed on the functional interpretation of renal disorders. Toward this end, and to insure appropriate treatment, it may prove helpful to define these disturbed functions of the kidney.

Acute impairment of renal function may come about in at least two major ways: (1) circulatory failure which may lead to renal ischemia, and (2) the action of nephrotoxic agents. Often both pathogenic factors are present, each augmenting the pathologic processes induced by the other. Circulatory failure may result from blood loss; decrease in plasma volume as seen in cases of burns and infectious diseases; dehydration from vomiting, diarrhea or water deprivation; cardiac failure, and interference with adequate circulation to the renal parenchyma as seen in such vascular lesions of the kidney as periarteritis nodosa. Many nephrotoxic agents exist, but those commonly encountered in pediatric practice are the sulfonamide drugs and mercury.

When a sudden severe insult is inflicted on the kidney, a distinct clinical syndrome occurs. This consists of oliguria, followed by diuresis, and in most instances it ends in subsequent recovery.[1,2] However, acute renal failure may also be a late manifestation of intrinsic and long-standing renal disease.

Infants with persistent derangement in the functioning of the nephron** usually show evidence of poor development which may be

*Department of Pediatrics, University of Buffalo School of Medicine, Buffalo, New York.

**A diagnosis of renal acidosis usually is made in cases of such derangement. The infants primarily show evidence of physiologic derangement of the renal tubule; however, the glomeruli may partake in this dysfunction.

associated with anorexia, vomiting, irritability and, later, rickets or osteomalacia.[3-7] Signs of acute renal insufficiency usually are not apparent unless dehydration or infection is superimposed. The purpose of this presentation is to outline ways of detecting early signs of renal tubular dysfunction in infants. Once the nature of the physiologic derangement is determined, therapy should be more rational.

*Physiologic Consideration of the Kidney**

In the formation of urine, all filtrable constituents of the plasma pass from the capillaries of the glomeruli into the capsular space. For glomerular filtration, the hydrostatic pressure in the capillaries and in the intracapsular space must be greater than the combined pressure of the plasma proteins. Approximately 100 liters of plasma per square meter of body surface is filtered through the glomeruli each day. During the passage of this ultrafiltrate down the lumina of the renal tubules, certain substances (e.g., dextrose) are completely reabsorbed; some (water, sodium, chloride and urea) are partially reabsorbed, but other substances (creatinine) are not reabsorbed at all. Since dextrose is reabsorbed completely, none appears in the urine. Glycosuria results when more dextrose is filtered than the tubules can reabsorb or when the tubular capacity is reduced. Under normal circumstances, about 85 per cent of the filtered water is reabsorbed by a passive process in the proximal tubules, while another 14 per cent of this filtered water (i.e., that subject to antidiuretic hormone control) is reabsorbed in the distal tubules by an active process, and about 1 per cent is left for excretion as urine. Concentration of the urine is thought to be accomplished in the distal portion of the nephron.

The capacity of a normal person to form a concentrated urine depends on the integrity of the hypophysial system and on the normal ability of the tubular cells to respond to the antidiuretic hormone. The excretion of sodium and chloride, the major ions of the circulating fluid, is controlled by many factors, such as the intake, the concentration of these electrolytes in the plasma, the glomerular filtration rate, the action of the adrenocortical hormones, the natriuretic action of the antidiuretic hormone, the response of the tubule cell, and perhaps other factors. Less than 0.5 per cent of the sodium and chloride filtered in the glomerulus is excreted in the urine. Potassium, unlike sodium and chloride, is secreted by the renal tubules as well as being filtered. The reabsorption of potassium is thought to occur in the proximal tubule while secretion of potassium is believed to take place in the distal segment.

These functions (water and electrolyte excretion) of the kidney permit regulation to a major extent of the electrolyte composition and fluid volume of the body. Other important roles of the kidney are excretion of waste products and the maintenance of acid-base equilibrium. Urea, the end product of protein metabolism, forms a major portion of the urinary solutes. Urea is filtered by the glomerulus, and a large portion (approximately 40 per cent) diffuses back through the tubular cells. The quantity of urea appearing in the urine is used to calculate urea clearance (urea clearance represents that quantity of plasma cleared of urea per minute). The urea clearance ranges from 20 to 80 per cent of the glomerular filtration rate* and is influenced by the urine flow. Since urea excretion is influenced by many factors, it should not be assumed that the urea clearance bears a constant relationship to the glomerular filtration rate. Nevertheless, one can use this test as a rough guide to appraise renal function.

The selective reabsorption of alkaline phosphate and bicarbonate by the tubules helps restore two main buffers of the body to the plasma. When the concentration of plasma bicarbonate is about 26 to 28 mEq. per liter,** all of the plasma bicarbonate filtered through the glomeruli is reabsorbed. When the con-

*For a more complete discussion of renal function, the reader is referred to the excellent book by Homer W. Smith, "The Kidney—Structure and Function in Health and Disease."

*Inulin is used to measure the glomerular filtration rate since this substance is completely filtrable from the plasma and is not reabsorbed by the renal tubules.

**Volume per cent of carbon dioxide as bicarbonate may be converted to milliequivalents per liter by dividing by 2.22.

centration is higher, bicarbonate is excreted in the urine. Phosphate is filtrable through the glomeruli and is reabsorbed by the tubules. When the concentration of inorganic phosphate is progressively elevated, a level is reached at which the tubular reabsorption of phosphate occurs at a maximal rate, and, when the concentration of plasma inorganic phosphate is above this level, spillage results. When the pH of the urine is 7.4, alkaline phosphate makes up about 80 per cent of the inorganic phosphate. At a pH of 4.8, nearly all the phosphate exists as acid phosphate, making available to the body as base-saving almost 1 mEq. per mol of phosphate excreted.

A further effective mechanism for base conservation is the tubular excretion of hydrogen ion which in turn replaces base (sodium). The normal adult excretes about 25 mEq. of free acid (H^+) each day. The quantity of buffer (phosphate) within the tubular urine will be a factor in determining the rate of excretion of free acid (H^+ or titratable acid). In cases of severe acidosis, the normal daily excretion of titratable acid may rise to 5 or 10 times the usual amount.

The production and excretion of ammonia by the kidney is another mechanism used to conserve base. The average daily excretion of ammonia is about 50 mEq. In cases of severe acidosis, the ammonia excretion may rise tenfold. Ammonia ion conserves base by replacing the cation sodium, and is excreted with phosphate and other fixed acids.

Physiology of the Kidney in Young Infants

In the young infant, renal function differs quantitatively rather than qualitatively from that of the adult. Adult values for glomerular filtration rate, renal plasma flow, and maximal tubular excretion of para-aminohippurate (a measure of tubular functioning mass) may be reached in some infants by about six months of age, and in most infants by two years.[8] These functions* in the very young infant are about 25 to 50 per cent of adult values. The very young infant can concentrate urine to about half the concentration observed to be achieved by the adult.[9] Full maturity of this function can be seen at two months of age.[10]

The rate of solute excretion when hypertonic solutions are given is about half that found in the adult. Excretion of sodium by the *young* infant is about 20 per cent of that of the adult. Bicarbonate excretion appears to follow the same pattern as it does in adults, and the mechanism for bicarbonate reabsorption and excretion may be fully developed early in life.[11] Young infants excrete little urinary inorganic phosphate. Infants fed breast milk of lower phosphate content excrete less phosphate than adults, and thus have less buffer substrate for base conservation.[12] Evidence exists to show that, with an acid load (chloride), premature infants excrete less urinary ammonia than do full-term infants.[13]

Clinical Aspects of Renal Tubular Insufficiency

Many conditions have been associated with base-wasting in early infancy. These include chronic pyelonephritis,[14] congenital anomalies of the genitourinary tract with or without infection (urethral membrane),[15] congenital polycystic kidneys,[15] metabolic disorders (Debré-de Toni-Fanconi syndrome),[16-18] cystine disease as described by Freudenberg,[19] hyperchloremic acidosis due to inability to make ammonia as described by Albright, Consolazio, Coombs, Sulkowitch and Talbott,[20] the infantile renal acidosis described by Lightwood, Maclagan and Williams,[21] idiopathic hyperchloremic acidosis in infants as described by Latner and Burnard[22] and apparently due to failure of the proximal tubules to reabsorb the filtered base bicarbonate, oculocerebrorenal syndrome as described by Lowe, Terrey and MacLachlan,[23] and vitamin D intoxication.[24]

In most cases of tubular insufficiency, signs occur in early infancy. The parents usually complain that the infants fail to gain weight. Loss of appetite and vomiting are usually associated with this symptom. Irritability can be striking enough in some cases to demand investigation. Loss of tissue turgor and constipation are consequences of the constant

*Surface area basis is used for comparison with the adult.

state of water deprivation, probably due to the greater demand for water excretion by the kidney, which cannot concentrate urine to a normal extent.

Although polyuria is rarely an initial complaint, it is a common finding if the mother is questioned as to the frequency with which the diapers are wet. Obviously, these symptoms are not unusual and can be caused by a great number of conditions affecting infant growth and development. Hyperpnea, a constant feature in a four month old infant described by Hartmann,[25] was present in so many of such patients in the clinic at the Buffalo Children's Hospital that an initial impression of pneumonia was entertained in several instances. Interestingly enough, these patients with hyperpnea, in most instances, showed no febrile response. Butler, et al.[26] were the first to associate this clinical picture with calcification of the renal tubules. Renal calcification has been observed in less than half of the cases of infantile renal acidosis.

Laboratory Data

Urinalysis is diagnostically of greatest importance.* The pH of the freshly voided urine of a patient with acidosis should be acid. An infant with normal renal function can produce a urine with a pH of 4.5 to 4.8 when the stress of acidosis stimulates the kidneys. If an infant cannot produce an acid urine in the face of systemic acidosis, the kidneys are not compensating fully for the disturbance in the acid-base equilibrium or perhaps are primarily to blame for the acidosis. It should be emphasized that only fresh specimens of urine should be tested since urine upon standing for several hours can become alkaline owing to decomposition of urea. Also, for determination of the urine pH, nitrazine paper is preferable to litmus paper. Some of these patients may have an acid urine with a pH between 5.8 and 6.0. However, most urine specimens obtained from such patients have a pH between 6.5 and 7.0.

In certain forms of renal tubular insufficiency, bicarbonate is excreted in the urine when its concentration in the plasma falls below 26 mEq. per liter. This indicates a significant pressure of carbon dioxide in the urine when very little should be present. In other forms of renal tubular insufficiency, the excretion of titratable acid (H^+ ion exchange) may be impaired. The urine pH in both instances would tend to be higher than expected.

The specific gravity of the urine of infants with renal tubular insufficiency may be fixed at 1.010 or below this value, indicating loss of concentrating capacity. It should be noted that interpretation of the specific gravity necessitates an accurate account of fluid intake four to six hours before the urine is obtained for analysis. It is well known that within one hour after fluid ingestion the specific gravity of the bladder urine falls to 1.004 or less and then gradually returns to the previous level within four hours (1.004 is normal, depending on the circumstances). Obviously, urine obtained for analysis one to two hours after the ingestion of water or after the intravenous administration of a solution of dextrose will have a low specific gravity. If the specific gravity of the urine is persistently low or fixed at the level of an ultrafiltrate of plasma, 1.012, the presumption is that the renal tubules cannot function properly in concentrating the ultrafiltrate of plasma. One must be certain that a lack of posterior pituitary hormone, as in diabetes insipidus, is not the cause of the persistent dilute urine.

Proteinuria may be present in cases of renal tubular insufficiency, but usually is not the most striking abnormal feature of the urinalysis. Hematuria is not a common feature of renal acidosis, but may occur, particularly in instances in which the glomeruli are damaged, as in cases of renal vascular disease. Pyuria is a constant feature in cases of pyelonephritis and in cases of infantile renal acidosis. It must be re-emphasized that, to the untrained observer, the urine of a female, if not obtained by catheterization, could lead to erroneous conclusions concerning pyuria. Glycosuria can be a consequence, if the tubular capacity to reabsorb dextrose is exceeded (lowered threshold).

*Twenty-four hour collection periods may be accurately and conveniently obtained under sterile conditions by the use of a disposable plastic set made by the Sterilon Corporation, Buffalo, New York.

Biochemical studies of the serum in cases of renal tubular insufficiency usually show the pH to be between 7.1 and 7.2. The serum chloride concentrations are high, above 103 mEq. per liter (105 to 150 mEq. per liter), and the serum bicarbonate values tend to be below the normal range of 26 to 28 mEq. per liter (10 to 20 mEq. per liter). If deficiency of the glomerular apparatus (filtration) is present, it may be expected that the values for the urea nitrogen, phosphorus and potassium of the plasma will be increased.

Renal Acidosis

If it can be ascertained that the hyperchloremic acidosis is not due to increased absorption of chloride and loss of base from the gastrointestinal tract, one must implicate the kidney, particularly when hyperpnea is not present. Hyperpnea has been shown to cause a syndrome of low serum bicarbonate and hyperchloremic values in some patients.[27]

Failure of the kidney to adjust to an acid load (biochemical acidosis) can be explained in at least four theoretical ways. First, Albright and his associates[20] have demonstrated that patients with hyperchloremic acidosis may have a renal tubular defect such as an inability to make ammonia, with a consequent loss of base (sodium, potassium and calcium). In such patients it is important to test the capacity of the kidney to produce ammonia by giving the patients calcium chloride or ammonium chloride for five days. In normal persons, the ammonia production should increase at least fivefold after five to seven days with this acid load. The increase in ammonia production is stepwise and usually reaches a maximum by the fifth day in older children while in premature infants the maximal production may not occur before seven to nine days.[28]

A second mechanism involves the capacity of the distal tubules to excrete hydrogen ion (titratable acid) in the face of an acid load and adequate buffer substrate. If a mixture of disodium hydrogen phosphate and monosodium dihydrogen phosphate is administered, enough buffer substrate is presented to the renal tubule to increase the hydrogen ion production to as much as fivefold or tenfold. If physiologic dysfunction exists in the distal tubules, an increase in titratable acid does not occur after the administration of the buffered phosphate solution.

The base bicarbonate and carbonic acid buffer system is most important in regulating the acid-base equilibrium of the plasma. Carbonic acid or its carbon dioxide tension is regulated by the respiratory system while the control of the base bicarbonate is wholly by the kidneys. The kidney stabilizes the plasma concentration of bicarbonate at 26 to 28 mEq. per liter by the reabsorption of bicarbonate below this concentration. If tubular reabsorption should be inadequate, metabolic acidosis may occur. Normally, very little bicarbonate exists in the urine; however, when reabsorption of bicarbonate is incomplete, quantities are found in the urine. To ascertain the integrity of this mechanism, a solution of sodium bicarbonate can be given intravenously for one to two hours and serial determinations of both plasma and urine concentrations of bicarbonate will reveal at what level spillage occurs. Recent studies by Latner and Burnard[22] have substantiated this mechanism in cases of renal acidosis.

The renal excretion of excessive acids produced by either normal or abnormal metabolism will tend to deplete the body of its base bicarbonate. This depletion, if not corrected, will cause acidosis. Acidosis of this type may not be primarily renal; however, a chronic tendency to acidosis may be an important factor in lowering the renal threshold for certain substances, e.g., phosphates. Schier and Stern[29] described a syndrome in children characterized by rickets resistant to vitamin D, and by renal glycosuria and a low concentration of inorganic phosphorus in the serum. Similar cases were reported later by Boyd,[30] Fanconi[18] and de Toni.[17] Fanconi reported several more such cases in 1936 and suspected that the large quantities of organic acids in the urine might be amino acids. Another case with excessive organic aciduria was reported later by McCune, Mason and Clarke in 1943.[4] In some of these cases, cystine deposits were present in the tissues and, in other cases, cystinuria was found.[19,31,32] Renal studies of a patient

TABLE 1

BASE REPLACEMENT THERAPY

DRUGS	EQUIVALENT SODIUM	USUAL DOSE
Molar solution of sodium lactate	1 mEq. per cubic centimeter	50 to 100 ml. per day
Sodium carbonate	11.9 mEq. per gram	4 to 8 gm. per day
Sodium citrate-citric acid mixture*	1 mEq. per cubic centimeter	50 to 100 ml. per day

*Citric acid 140 gm.
Sodium citrate 98 gm.
Distilled water to make 1000 cc.

with the Fanconi syndrome led Stowers and Dent[33] to believe that the pathogenesis of this syndrome consisted of tubular inability to handle dextrose, phosphate and amino acids.

Lowe and his associates[23] have reported a group of infants in whom mental retardation, systemic acidosis, hydrophthalmos, organic aciduria and decreased ability to fabricate ammonia by the kidney were the common features. The large amount of organic acid excreted was unidentified but was shown not to be primarily amino acid, although a slight increase in the alpha-amino acid was present in the urine. It was suggested that this condition represents a combination of two mechanisms: (1) excessive organic acid production and renal tubular defect as demonstrated by persistent alkaline urine in the face of systemic acidosis, and (2) poor ammonia response to acid loading.

Treatment

The aims in therapy of patients with renal acidosis should be to correct deficits established by physiologic dysfunction and also to prevent excessive accumulation of toxic substances and to remove etiologic factors when possible.

Administration of fluids—During oliguria, enough fluid should be given to prevent or correct any state of dehydration and yet not enough to produce pulmonary edema and heart failure. The estimated daily fluid needs (excluding abnormal fluid losses elsewhere) should be the sum total of the water lost in insensible sweating, in sensible sweating, and as urine. The loss in insensible sweating is estimated to be 500 to 1000 ml. per square meter of body surface per day. Polyuria should not be interpreted as indicating that renal function is good. An excellent urinary output may be due to lack of tubular reabsorption and may indicate tubular disease. It is important, therefore, to emphasize that during a phase of diuresis with a low glomerular filtration rate (increased concentration of blood urea nitrogen) one must be particularly alert not to give excessive amounts of fluid.

Acid-base regulation—Whenever base deficit is present with the oliguric state, it may be wise to allow some sodium depletion to lessen the danger of pulmonary edema and heart failure. In acute acidosis, particularly if severe, correction may be made by using any of the standard base replacement solutions. The correction should be controlled by estimating the carbon dioxide-combining power of the plasma and the concentration of chloride in the plasma during therapy.

The appropriate base replenishment therapy for a child who has chronic acidosis is shown in table 1. Sodium bicarbonate tablets crushed and covered with fruit, such as apple sauce, are tolerated very well. The exact dose for each patient can only be determined by blood chemical analysis. In general, the carbon dioxide-combining power of the plasma is maintained at about 20 mEq. or more per liter. If the patient gains weight and develops adequately, one has further assurance that the base replacement is adequate. If the initial insult to the kidney is temporary, base replacement may be discontinued early, but, if permanent damage exists, base replacement may be necessary for long periods or permanently.

Calcium (1 to 2 gm. daily) should be administered, since osteomalacia can occur in cases of permanent renal dysfunction.[34] Since

the administration of calcium chloride may further enhance acidosis, it is wise to use calcium lactate or gluconate, if additional calcium is required in the diet. It should also be pointed out that, whenever additional calcium is needed, it may prove helpful to use Albright's mixture (sodium citrate-citric acid) because of its acid medium which helps promote better calcium absorption. Vitamin D (5000 to 10,000 units) should be supplied daily. A recent report discloses that large doses of vitamin D (400,000 units per day) have modified favorably the hyperchloremic acidosis in two cases of Fanconi's syndrome.[35]

Infection—Specific antibiotic therapy is used against bacteria isolated by culture of the urine. The disappearance of white blood cells from the urine does not prove that the infection has been cleared. Bacteriologic examination is necessary to prove clearing of the infection. A diagnosis of urinary infection should not be made unless bacterial culture of the urine discloses about 100 colonies of bacteria per cubic millimeter. In cases of infection with gram-negative bacilli, sulfonamides, AUREOMYCIN®, TERRAMYCIN® or chloramphenicol may help to eradicate the bacilli. Administration of penicillin G is indicated in most cases of infection with gram-positive cocci. However, cultures and sensitivity tests should be made, whenever possible, prior to the administration of specific therapy. Even though *Escherichia coli* is responsible for 75 per cent of all infections of the urinary tract, it is wise to make bacteriologic studies, since mixed infections are not uncommon. Certainly, the common association of pyelonephritis with congenital malformations with obstruction to urine flow should indicate visualization of the genitourinary tract in all patients with renal dysfunction and infection.

Nutrition—Obviously, adequate caloric intake is necessary for activity and normal growth. An average of 110 calories per kilogram of body weight per day during the first year of life is required. As the infant grows, the caloric daily requirement per kilogram becomes less (approximately 10 calories decrease per three year period). During the first year of life the infant is maintained on a positive nitrogen balance by an intake of 4 gm. of protein per kilogram of body weight per day. The preschool child should receive, each day, 2 to 3 gm. of protein per kilogram of body weight. It should be pointed out that calories as carbohydrate lessen the renal solute load for excretion[36] and also prevent excessive breakdown of body protein and fat.

REFERENCES

1. Stock, R. J.: Acute urinary suppression; observations in 22 patients. Am. J. Med. 7:45 (July) 1949.
2. Swann, R. C. and Merrill, J. P.: Clinical course for acute renal failure. Medicine 32:215 (May) 1953.
3. McCune, D. J., Mason, H. H. and Clarke, H. T.: Late rickets with glycosuria and organic acid acidosis (Fanconi type). Am. J. Dis. Child. 58:673 (September) 1939.
4. ——: Intractable hypophosphatemic rickets with renal glycosuria and acidosis (Fanconi syndrome). Am. J. Dis. Child. 65:81 (January) 1943.
5. Boyd, J. D. and Stearns, G.: Late rickets resembling Fanconi syndrome. Am. J. Dis. Child. 61:1012 (May) 1941.
6. Lightwood, R., Payne, W. W. and Black, J. A.: Infantile renal acidosis. Pediatrics 12:628 (November) 1953.
7. Baines, G. H., Barclay, J. A. and Cooke, W. T.: Nephrocalcinosis associated with hyperchloraemia and low plasma-bicarbonate. Quart. J. Med. 14(n.s.):113 (April) 1945.
8. Rubin, M. I., Bruck, E. and Rapoport, M.: Maturation of renal function in childhood: clearance studies. J. Clin. Investigation 28:1144 (September) 1949.
9. Calcagno, P. L., Rubin, M. I. and Weintraub, D. H.: Studies on renal concentrating and diluting mechanisms in the premature infant. J. Clin. Investigation 33:91 (January) 1954.
10. Pratt, E. L., Bienvenu, B. and Whyte, M. M.: Concentration of urine solutes by young infants. Pediatrics 1:181 (February) 1948.
11. Tudvad, F., McNamara, H. and Barnett, H. L.: Renal response of premature infants to administration of bicarbonate and potassium. Pediatrics 13:4 (January) 1954.
12. Dean, D. F. A. and McCance, R. A.: Phosphate clearance in infants and adults. J. Physiol. 107:182 (January) 1948.
13. Gordon, H. H., McNamara, H. and Benjamin, H. R.: Response of young infants to ingestion of ammonium chloride. Pediatrics 2:290 (September) 1948.
14. Peterman, M. G.: Chronic pyelonephritis with renal acidosis. Am. J. Dis. Child. 69:291 (May) 1945.
15. Rubin, M. I. and Calcagno, P. L.: Unpublished data.
16. Debré, R., Marie, J., Cleret, F. and Messimy, R.: Rachitisme tardif coexistent avec une néphrite chronique et une glycosurie. Arch. de méd. d. enf. 37:597 (October) 1934.
17. DeToni, G.: Remarks on relations between renal rickets and renal diabetes. Acta Paediat. 16:479, 1933.
18. Fanconi, G.: Die nicht diabetischen Glycosurien und Hyperglykämien des älteren Kindes. Jahrb. f. Kinderh. 133:257 (November) 1931.
19. Freudenberg, E.: Cystinosis: cystine disease (Lignac's disease) in children. Advances in Pediatrics 4:265, 1949.
20. Albright, F., Consolazio, W. V., Coombs, F. S., Sulkowitch, H. W. and Talbott, J. H.: Metabolic studies and therapy in case of nephrocalcinosis with rickets and dwarfism. Bull. Johns Hopkins Hosp. 66:7 (January) 1940.
21. Lightwood, R., Maclagan, N. F. and Williams, J. G.: Persistent acidosis in an infant. Proc. Roy. Soc. Med. 29:1431 (September) 1936.
22. Latner, A. L. and Burnard, E. D.: Idiopathic hyperchloremic renal acidosis of infants (nephrocalcinosis infantum); observations on the site and nature of the lesion. Quart. J. Med. 19(n.s.):285 (October) 1950.
23. Lowe, C. U., Terrey, M. and MacLachlan, E. A.: Organic-aciduria, decreased renal ammonia production, hydrophthalmos, and mental retardation. Am. J. Dis. Child. 83:164 (February) 1952.

24. Fanconi, G. and de Chastonay, E.: Die D-Hypervitaminose in Säulingsalter. Helvet. paediat. acta 5:5 (suppl.), 1950.
25. Hartmann, A. F.: Clinical studies in acidosis and alkalosis; use and abuse of alkali in states of bicarbonate deficiency due to renal acidosis and sulfanilamide alkalosis. Ann. Int. Med. 13:940 (December) 1939.
26. Butler, A. M., Wilson, J. F. and Farber, S. J.: Dehydration and acidosis with calcification at renal tubules. J. Pediat. 8:189, 1936.
27. Rapoport, S.: Role of overventilation in diseases of infancy. Ann. paediat. 176:137, 1951.
28. Calcagno, P. L., Lowe, C. U. and Rubin, M. I.: Unpublished data.
29. Schier, A. and Stern, A.: Uber einen fall von unheilbarer Rachitis. Arch. f. Kinderh. 78:176 (June) 1926.
30. Boyd, J. D.: Unusual syndrome associated with rickets. Am. J. Dis. Child. 33:539 (March) 1927.
31. Lignac, G. O. E.: Uber Störung des Cystinoffwechsels bei Kindern. Deutsches Arch. f. klin. Med. 145:139 (October) 1924.
32. Russell, D. S. and Barrie, H. J.: Storage of cystine in reticuloendothelial system and its association with chronic nephritis. Lancet 2:899 (October 17) 1936.
33. Stowers, J. M. and Dent, C. E.: Studies on mechanism of Fanconi syndrome. Quart. J. Med. 16 (n.s.):275 (October) 1947.
34. Albright, F., Burnett, C. H., Parson, W., Reifenstein, E. C. and Roos, A.: Osteomalacia and late rickets. Medicine 25:399, 1946.
35. Salassa, R. M., Power, M. H., Ulrich, J. A. and Hayles, A. B.: Observations on metabolic effects of vitamin D in Fanconi's syndrome. Proc. Staff Meet., Mayo Clin. 29:214 (April 21) 1954.
36. Calcagno, P. L. and Rubin, M. I.: Effect of added carbohydrate on growth, nitrogen retention and renal water excretion in premature infants. Pediatrics 13:193 (March) 1954.

MEETINGS *and Postgraduate Courses*

American College of Physicians:
Postgraduate course on selected subjects in internal medicine, May 9-13, at the Mayo Clinic and Mayo Foundation, Rochester, Minnesota, directed by Drs. Edgar V. Allen, James C. Cain, L. O. Underdahl and L. Emmerson Ward.

Postgraduate course on internal medicine, May 23-27, at the University of Cincinnati College of Medicine, Cincinnati, directed by Dr. M. A. Blankenhorn.

Postgraduate course on clinical electrocardiography, April 11-15, at Wayne University College of Medicine, Detroit, under the direction of Dr. Gordon B. Myers.

Postgraduate course on stress and aging, April 20-23, at the Lankenau Hospital, Philadelphia, directed by Dr. Edward L. Bortz and associate directors, Drs. Malcolm W. Miller and Daniel B. Pierson, Jr.

Postgraduate course on fundamental advances in internal medicine, June 13-17, at the University of Colorado School of Medicine, Denver, directed by Drs. James J. Waring and Gordon Meiklejohn.

International Academy of Proctology: Seventh annual meeting March 23-26 at the Hotel Plaza, New York City, with emphasis on cancer of the lower intestine and on ulcerative colitis. March 24 session will be at the Jersey City Medical Center, with operating clinics and a symposium on intestinal surgery and related conditions.

American Psychiatric Association: Annual meeting, May 9-13, at Convention Hall in Atlantic City, New Jersey.

University of Minnesota, Minneapolis: Continuation course in allergy and chest diseases for general physicians, April 18-20, at the Center for Continuation Study, with emphasis on management of commonly met problems in these fields. Program is under direction of Dr. C. J. Watson, Professor and Head, Department of Medicine.

Continuation course on introduction to electrocardiography, May 9-14, at the Center for Continuation Study. Course is intended primarily for physicians with little or no previous experience in electrocardiographic interpretation.

American Academy of Pediatrics: Spring session, April 4-7, at the Sheraton-Cadillac Hotel, Detroit, with co-headquarters in the Hotel Statler. Additional information available from Dr. E. H. Christopherson, executive secretary of the Academy, 610 Church Street, Evanston, Illinois.

University of Minnesota, Minneapolis: Continuation course in gynecology for general physicians, April 14-16, at the Center for Continuation Study, with emphasis on the problem of vaginal bleeding. Course is under the direction of Dr. John L. McKelvey, Professor and Head, Department of Obstetrics and Gynecology.

Continuation course in radiology for general physicians, April 11-13, under the direction of Dr. Leo G. Rigler, Professor and Head, Department of Radiology.

American Medical Writers' Association: Twelfth annual meeting, September 30-October 1, at the Hotel Jefferson, St. Louis, with a workshop on medical writing, October 1.

Editorials

Postgraduate Medicine

Editor-in-Chief:
CHARLES W. MAYO, M.D.

Contributing Editor:
MORRIS FISHBEIN, M.D.

Assistant Editor:
SYLVIA COVET

CONFEDERACIÓN MEDICA PANAMERICANA

For the first time practically all the Latin American nations are associated in a continental organization for the advancement of medical science, the circulation of medical information and coordinated efforts in raising the standards of medical education, medical practice and the delivery of medical services. What this signifies for international peace and for the common good should be apparent to everyone.

In 1946 the initiative toward this end was under the leadership of the Cuban Medical Association. Today the Confederación Medica Panamericana is fully established and its publication, *Revista de la Confederación Medica Panamericana*, now circulates to every qualified physician who is a member of his medical organization in each country in Latin America. The circulation since September 1954 has been 50,000 copies. This is the first publication of its kind to be circulated in Latin America. Its unique character lies in the fact that it is edited largely by Latin American physicians for Latin American physicians. It provides an opportunity for each of them to speak to all of them and, through it, to all the world.

This organization has great significance for the future of medicine in Latin America. Through the Confederación, steps have already been taken to form committees which will aid Latin American industry in establishing standards of practice in the introduction of remedies, in controlling the issuance of trademarks and in securing the kind of cooperation for industry that is necessary for development of Latin American pharmaceutical enterprise.

Lists have been prepared of the leading hospitals in Latin America and their staff members. Lists are also available of the established medical societies and memberships.

The surgical trade, the pharmaceutical trade, the medical publishing trade and, in fact, every industry concerned with medical facilities and equipment will find that this organization and publication will act as a powerful catalyst in mobilizing the Latin American medical profession.

Before a new remedy is introduced in the United States, controlled clinical trials are made in our leading medical institutions. Similarly, the medical institutions in Latin America should be given an opportunity to participate in clinical tests in their own institutions.

MORRIS FISHBEIN

PROGRESS IN TUBERCULOSIS CONTROL

JUST after the turn of the century, when the National Tuberculosis Association was organized (1904), a few fundamental facts about the disease were already known. The characteristic anatomic and pathologic features had been described, and Koch had recently discovered the germ and established its specific infectious nature. Koch's discovery was the stimulus for intensified research involving methods for detecting and staining the organism, and for investigation of ways to increase human resistance to the disease. Antiserums were developed but they proved to be without specific value. The discovery of the roentgen ray in 1895 was also fundamental to progress against tuberculosis; mass chest examinations of millions of people have since been made to detect the disease at an early stage. The tuberculin test has become of great significance in the diagnosis and epidemiology of tuberculosis.

As pointed out by Dr. Esmond R. Long,[1] when the twentieth century opened, tuberculosis was the world's most destructive disease. Now, after some 50 years, control of the disease is an established possibility. Areas that 50 years ago had death rates well over 20 per 10,000 now in many instances have death rates under 1 per 10,000.

Among the advances especially emphasized by Dr. Long in his inspiring address is the eradication of bovine tuberculosis in the United States with a corresponding diminution in crippling due to infection with *Mycobacterium tuberculosis*. For human beings, programs leading to the finding of cases by clinics devoted to diseases of the chest, the systematic supervision of contacts, and the detection of early cases by mass surveys have been of immense importance in preventing the dissemination of tuberculosis. If the disease were of a different type, isolation of cases might have been established to diminish sources of contagion. Many communities have taken the drastic step of forced isolation. However, Dr. Long is convinced that complete isolation is ordinarily not necessary and that proper medical supervision and intelligent cooperation by the patient go a long way toward preventing dissemination of infection.

Dr. Long says briefly that the majority of attempts to vaccinate against tuberculosis have resulted in "a discouraging lack of success." He does believe now that ". . . measurable, if not decisive, success has attended the efforts to immunize actively against tuberculosis by vaccination. Of the large number of products tried with more or less rationale, one practical vaccine, BCG, has survived." Furthermore, Dr. Long says, "There is no question that it raises resistance to tuberculosis in some degree." Many millions of persons have been inoculated and the time is about ripe for serious evaluation of the result.

Fortunately, new methods of medical and surgical treatment of tuberculosis have had increasing success. Among these is artificial pneumothorax, which was used at one time in some institutions on 90 per cent of patients under treatment. The use of artificial pneumothorax has, however, declined greatly with the coming of new chemotherapy.

Streptomycin has become to tuberculosis what penicillin is to suppurative infections. Reduction in dosage of streptomycin, and combined therapy with *p*-aminosalicylic acid (PAS) have overcome some of the difficulties associated with the use of streptomycin. Also, isonicotinic acid hydrazide (isoniazid), an almost nontoxic drug, apparently has therapeutic efficacy much like that of streptomycin. Pyrazinamide is now added as an alternative to the other therapeutic preparations already mentioned.

The discussion would not be complete without mention of the tremendous accomplishments of thoracic surgery.

Even with all these developments, a great field still exists for further research into diagnosis, prevention and treatment of what is for much of the world still the most important of diseases. Research has led the way to the promise of complete control if not complete elimination of what Osler called "Captain of the men of death."

In an address at the dedication of the Gerald B. Webb Memorial Building of the Colorado

Foundation for Research in Tuberculosis, Rene J. Dubos[2] succinctly stated the unsolved problem: "We can legitimately hope that there will be discovered less cumbersome and more refined diagnostic technics, a vaccine free of gross objections, more pointed surgical procedures, and drugs which are eradicative instead of merely suppressive." And Dr. Dubos concludes: "History shows that tuberculosis is the product of incomplete civilization. It is a struggle in which civilized man is still at a biologic disadvantage because he is imperfectly adapted to the new mode of life which he is creating or which is forced upon him. Tuberculosis is a social problem involving many factors other than the tubercle bacillus. It will be rapidly mastered only if society can be more perfectly fitted to human needs, limitations and urges."

MORRIS FISHBEIN

REFERENCES

1. Long, E. R.: A half century of medical progress in the control of tuberculosis. Am. Rev. Tuberc. 70:383 (September) 1954.
2. Dubos, R. J.: Unsolved problems in tuberculosis. Am. Rev. Tuberc. 70:391 (September) 1954.

"CHILDREN CRY"[1]

With no language but a cry" as the text for his presidential address, Willis J. Potts, president of the Institute of Medicine of Chicago, surveyed the need for a further refinement of specialization in the development of a subspecialty of surgery to be known as pediatric or children's surgery. According to Dr. Potts, there are in the United States today approximately 45 children's hospitals, but only eight have surgical services headed by surgeons who devote all or most of their time to the surgery of children. In the pediatric-surgical section of the American Academy of Pediatrics only 33 surgeons are enrolled, 21 of whom devote 90 to 100 per cent of their time to the surgery of children with the remaining 12 making it a major interest. In several large hospitals and universities, general surgeons are making children's surgery their avocation.

Until some 15 years ago the special surgery of children included operations for appendicitis, hernia, pyloric stenosis, intussusception, empyema and osteomyelitis. Now the domain of children's surgery includes also such technical procedures as "knowledge of the pathology of malrotation of the bowel; repair of congenital atresia of the esophagus with and without tracheo-esophageal fistula; removal of congenital lung cysts and lobectomy for congenital lobar emphysema; the entire field of surgery of congenital heart disease; better understanding of the treatment of atresia of the rectum with all its complications; recognition of the pathology of Hirschsprung's disease; operative treatment of meconium ileus; an aggressive, instead of a defeatist, attitude toward the treatment of malignant tumors in children."

As an example of the difference between the surgery of adults and that of children, Dr. Potts inquires, "Does it necessarily follow that a surgeon skilled in the operative treatment of cancer of the lung can do equally well with an operation for tracheo-esophageal fistula in a 5 lb. baby and handle the demanding postoperative care? The proctologist with years of experience with hemorrhoids and resection of the rectum may be completely at sea when confronted with the intricate problem of atresia of the rectum."

A pediatric surgeon is not necessarily simply a person who operates on little people. Any surgeon who wishes to specialize in this difficult field must love children sufficiently to be tolerant of their eccentricities, deaf to their screaming but sensitive to their crying. The differences between the physiology of the child and that of the adult are the factors that make specialization in children's surgery necessary. Dr. Potts says, "Their respiration is fast and often irregular. Their pulse is rapid and their temperature labile. A newborn infant requires no fluid the first day of life but by the end of a week needs 60 cc. per pound of body weight each day. In case of severe dehydration it may require twice that amount. Giving an infant what it needs in the way of fluid, electrolytes, sugar and blood and what that infant will tolerate is constantly a matter of wonder and surprise. A day old child will tolerate a prolonged operation far better than a 50 year old adult. Its cells are young and it is unhampered by

fear. It just fights to live. Yet, its margin between good health and death is narrow. One hour the child may appear to be on the road to recovery, the next hour it is dead."

In this address, which needs to be read carefully again and again for all of its many merits, Dr. Potts contributes from his long and brilliant experience in the field of pediatric surgery many aphorisms which should be memorized, because of the succinct manner of expression and the truths that they emphasize:

> When a baby above six weeks of age smiles following an operation, it is ready for a full tray.
>
> The sick infant who merely whimpers when examined is in danger of early death.
>
> Nausea in a 10-day old infant is unmistakable. Instead of sucking its tongue or fist, it opens its mouth, moves its tongue about as if to spit out something, and restlessly moves its head from side to side.
>
> Although preoperative medication is important in relieving a child's anxiety, it does not take the place of psychic preparation for surgery.
>
> The actual technic of operating on a baby will not be mastered by operating on rabbits. It will help. Gentleness in handling fragile tissues must be mastered and the feather touch is essential. The resident who sponges so heavily that the whole baby shakes might well shift his interest to general carpentry.

As for the future preparation of young men for this specialty, Dr. Potts feels that a specialty board is not desirable at this time. The candidate should be certified by the American Board of General Surgery; then any surgeon who has had adequate training in pediatric surgery may take a special examination in that specialty. In his career Dr. Potts has found the specialty fascinating and tremendously rewarding. The work is broad enough to interest any worker, difficult enough to satisfy the ambitious and new enough to stimulate the imagination.

MORRIS FISHBEIN

[1]Potts, Willis J.: Children cry. Proc. Inst. Med. Chicago 20:207 (December 15) 1954.

UNESTABLISHED NEW DRUGS

The day of the miracle drugs is not over. The antibiotics simply have increased in number so largely as to baffle even the science writers who used to greet each new antibiotic with reams of irrational enthusiasm. Then, as the months passed, the uses diminished, the side effects increased, and each of the newer antibiotics found a small niche in the total field. Apparently some 12 tons of antibiotics were manufactured in the United States last year, but penicillin led the list by far in the total amount used.

Most recent on the horizon are chlorpromazine (also known as THORAZINE® or Largactil) and lysergic acid—at this writing apparently drugs of great significance and likely to command a definite place in the therapeutic armamentarium. In the mass of periodical articles now appearing, new uses are reported weekly, but some time must elapse before the products are admitted to the list of well-established and clearly defined therapeutic substances.

The effects of publicity related to new drugs are particularly significant in the handling of mentally affected patients. What this means is well stated by Dr. Francis J. Braceland in the annual report for 1953-1954 of the Institute of Living, Hartford, Connecticut:

"Several new drugs have appeared lately on the scene and give some promise of assistance, particularly to the hypersensitive, the agitated and the overactive, anxious individuals. Again, these therapeutic agents are under careful and scientific scrutiny and control, and little should be said about them until the results of their usage have been sufficiently appraised. It is a form of cruelty to raise the hopes of families and patients regarding cures by too early and too enthusiastic publicity. We are deluged with mail every time a popular magazine publishes an article about a new 'miracle drug,' with all the lavish and unsubstantiated claims which usually accompany it. To offer hope, only to have it dashed time and again, is a distressing experience. All new agents need careful scientific trial before being endorsed as curative, or even helpful."

MORRIS FISHBEIN

faster help for your patient

visceral eutonic

DACTIL

PLAIN AND WITH PHENOBARBITAL

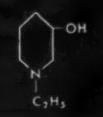
relieves gastroduodenal, biliary pain⇄spasm usually in ten minutes

eutonic: abolishes **pain⇄spasm** without interfering with normal tonus or motility

unusually well tolerated: free from "antispasmodic" side effects and does not affect gastric and biliary secretion

Lakeside Laboratories, Inc. · Milwaukee 1, Wisconsin

PIONEERS IN PIPERIDOLS



THE MEDICAL *Bookman*

► CURRENT CONCEPTS IN DIGITALIS THERAPY

By Bernard Lown, M.D., formerly Assistant in Medicine, Peter Bent Brigham Hospital, and Samuel A. Levine, M.D., Clinical Professor of Medicine, Harvard Medical School, Boston. 104 pages. 1954, Little, Brown & Company, Boston. $3.50.

Much of the material in this book appeared first in 1954 in the *New England Journal of Medicine*. The article aroused such great interest, the authors decided to publish the material as a book and make certain additions of practical value.

The book presents a comprehensive and excellent discussion of all aspects of digitalis. It is divided into six main chapters: the action and clinical use of digitalis, digitalis intoxication, electrolytes and digitalis, relation of potassium to digitalis intoxication, paroxysmal atrial tachycardia with block, and a digitalis tolerance test. Each chapter includes graphs, representative electrocardiograms and histories to highlight certain important points in the discussion.

The last two chapters are of particular interest, since (1) the experimental and clinical studies presented leave no doubt that the arrhythmia of paroxysmal atrial tachycardia with block is due to digitalis intoxication; and (2) the acetylstrophanthidin tolerance test described already has stimulated much discussion and interest. The purpose of this test ". . . is to ascertain the degree of digitalization and myocardial sensitivity to digitalis in patients whose digitalis status is in doubt." While this problem often can be resolved adequately with the use of rapid-acting agents, such as CEDILANID® used intravenously or even DIGOXIN® used orally, there is no doubt that in certain selected patients the use of this very rapid-acting and very rapidly dissipated agent may be of value. The authors emphasize the potential danger of the test, and state. ". . . there must be real doubt concerning the digitalis requirements that cannot be resolved by simpler means before the test is employed."

There seems to be a typographic error on page 54. In case report A. R., on this page, the daily dosage of 7.5 *mg.* of potassium chloride reportedly given to the patient was undoubtedly 7.5 *gm.* of potassium chloride daily.

The bibliography is very complete and will serve as an excellent reference source for problems involving digitalis.

The book is unqualifiedly recommended. It will be of particular interest to cardiologists, internists and general practitioners.

R. O. B.

► YEAR BOOK OF OBSTETRICS AND GYNECOLOGY

Edited by J. P. Greenhill, M.D., Professor of Gynecology, Cook County Graduate School of Medicine, Chicago. 544 pages, illustrated. 1954, The Year Book Publishers, Inc., Chicago. $6.00.

Following a pattern similar to that of previous years, Dr. Greenhill has again presented in abstract form a collection of many of the world's outstanding articles from the obstetric and gynecologic literature of the past year. The abstracts are clear and brief, and in many instances the editor has appended thoughtful comments.

R. A. S.

(Continued on page A-78)

For ***POSITIVE*** *Health*

Youngsters instinctively go for apples. Why? A taste such as this arises from both physiological and psychological needs.

When the nourishment necessary to health is endangered by a crowding out of essentials, or by stressful eating and digestion, the cause is sometimes to be found in lack of opportunity for the native tastes to exert their equable influence.

An apple is a subtle persuader. It invokes the pleasure of every sense, and yields a unique combination of benefits.

To reach for an apple is to trigger release from stress; it will not be hurried, nor enjoyed under tension. Sinking the teeth into its crisp juiciness promotes dental health. With zestful enjoyment down to the core, every swallow aids digestion, assimilation, and elimination. With all this, the apple is good company with all other foods contributory to positive health.

Do more families in your practice need to acquire the habit of setting out the fruit bowl?

NATIONAL APPLE INSTITUTE, 726 JACKSON PLACE, N. W., WASHINGTON 6, D. C. *In behalf of*

THE APPLE GROWERS OF AMERICA

AMES
COMPANY, INC.

manufacturers of *Decholin,*® *Decholin Sodium,*® *Decholin* with Belladonna,
Clinitest,® *Acetest,*® *Ictotest,*® and other adjuncts in clinical management

announces that it has merged into its research, production and professional service programs, the facilities and products of the fifty-year old

ERNST **BISCHOFF**
COMPANY, INC., IVORYTON, CONN.

manufacturers of *My-B-Den,*® *Aminet*®
Diatussin® and *Bi-co-tussin**

*TRADEMARK

AMES COMPANY, INC · ELKHART, INDIANA

84188

THE PRODUCT OF A GREAT DIAGNOSTIC CLINIC

Clinical Diagnosis

REGIONAL, SYSTEMIC AND THE BODY AS A WHOLE

By

ELMER G. WAKEFIELD, M.D., F.A.C.P.

Diplomate, American Board of Internal Medicine; Consulting Physician, Section of Medicine, Mayo Clinic; Associate Professor of Medicine, Mayo Foundation for Medical Education and Research, University of Minnesota

Here, for the first time in many years, is a compact, single-volume, comprehensive text (1611 pages) devoted to applied principles, practical methods, and tested technics for the diagnosis of disease.

Wakefield's CLINICAL DIAGNOSIS has been prepared for the use of clinicians by a well known clinician whose own broad experience has been supplemented by the accumulated records of many thousands of cases diagnosed each year at the Mayo Clinic by its staff of trained diagnosticians.

For ease of reference and practical use the text matter has been divided into three main sections with the diagnosis of regional diseases covered in 531 pages, the diagnosis of systemic diseases in 660 pages and the diseases which affect the entire body in 354 pages. Each section is practically a complete book in itself but each supplements the others and together they make up an invaluable reference for the general practitioner, the internist, the resident, and the interne.

These methods and technics are those with which the physician can correctly diagnose at least seven of every ten cases which present themselves to him without the necessity of consulting a specialist.

1st EDITION, PUBL. FEB. 1955 • 1611 PAGES • 135 FIGURES • $22.50 POSTPAID

ORDER THROUGH BOOK STORES, BOOK SELLERS OR THE PUBLISHER

APPLETON - CENTURY - CROFTS, INC.

35 WEST 32nd STREET, NEW YORK 1, N. Y.

(Publishers of THE NEW CENTURY CYCLOPEDIA OF NAMES)

► PROGRESS IN CLINICAL SURGERY

Edited by Rodney Smith, M.S., F.R.C.S., Surgeon, St. George's Hospital, London, England. 414 pages, illustrated. 1954, Little, Brown & Company, Boston. $6.50.

Recent advances in clinical surgery contributed by 20 outstanding British authorities and edited by Smith are the basis for this symposium. The subject material includes problems that are commonly seen in the practice of general and thoracic surgery. The concise, thorough discussions of diversified subjects, with special emphasis on recent contributions, will be especially appealing to the busy general surgeon. The opinions expressed in much of the symposium seem to reflect considerable personal experience and are not based on a mere compilation of articles extracted from the literature.

The subjects selected for this volume are such that every surgeon, even those in special fields, will find much material to arouse his interest. It is difficult to select any one discussion, for such selection would vary with personal interests.

At first glance, one might conclude that some important problems are dismissed with minimal attention. However, it soon becomes apparent that the editor, by appropriate selection and emphasis, has accomplished his aim to supplement standard surgical textbooks. He has assumed that the reader has a certain amount of surgical knowledge, and it has been his object to build on this and, in particular, to emphasize recent contributions. A wealth of concise information is contained in the chapters on recent developments in anesthesia, the stomach and duodenum, acute intestinal obstruction, general peritonitis, medical indications for splenectomy, carcinoma of the breast, peripheral vascular surgery, the infected hand and the injured hand.

It is commendable that the various authors expressed their personal opinions in most problems of therapy, and it is inevitable that the reader will find occasion to disagree. In the discussion of the stomach and duodenum, the author listed a number of indications for surgical intervention in the presence of gastric ulcer. It would seem that the mere presence of a gastric ulcer would be sufficient justification for surgical management in most situations. It was pointed out that the Billroth I type of gastric resection should be reserved for the use of those surgeons who are particularly adept and experienced in perform-

both patient and physician

may rest easier when...

clor

provides uneventful

daytime SEDATION

nighttime SLEEP

free of

- residual symptoms of the barbiturates
- gastric irritation produced by chloral hydrate

dosage: *Sedative-Antispasmodic:* 0.25 Gm., 2 to 4 times daily. *Nausea or Motion Sickness:* 0.25 Gm., repeated in 30 minutes if necessary. *Hypnosis:* 0.5-1.0 Gm., ½ to 1 hour before retiring.

supplied: Gelatin capsules, 0.25 Gm. (3¾ Gr.) and 0.5 Gm. (7½ Gr.); bottles of 100.

Wampole

ing gastric operations. When properly indicated, this procedure is not any more difficult technically than any other type of gastric resection.

In the chapter on acute intestinal obstruction, the reader will appreciate the emphasis on the occasional misuse of the principle of nonoperative gastrointestinal decompression. In the discussion of carcinoma of the colon, the mention of pull-through operations was not noted. It would probably be a fair statement that these operations do have a limited but definite place in the management of certain malignant lesions of the distal portion of the large bowel. It is difficult to accept the enthusiastic endorsement of thiouracil (methyl or propyl) as total treatment of thyrotoxicosis. In an otherwise good summary of surgery of the respiratory system, it might be pointed out that a mortality rate of 15 per cent after pneumonectomy for a malignant pulmonary lesion is unusually high.

As the editor intended, these concise articles provide an excellent résumé of subjects for the young general surgeon in preparation for his certification examinations. In addition, for busy general practitioners they spotlight very well the recent advances in surgery.

P. E. B.

► PEDIATRIC DIAGNOSIS

By Morris Green, M.D., Assistant Professor of Pediatrics, and Julius B. Richmond, M.D., Professor and Chairman of the Department of Pediatrics, State University of New York College of Medicine, Syracuse. 436 pages. 1954, W. B. Saunders Company, Philadelphia and London. $10.00.

Although the nature of pediatric practice has changed with a decrease in morbidity and mortality due to infections and to nutritional and metabolic diseases in infants and children, interest in child health has increased and creates a continuing need for diagnostic skill on the part of the physician.

The authors emphasize that the approach to solving pediatric problems is by early diagnosis based on a competent history and a careful physical examination. After discussing this in detail, the authors present in outline form the symptoms and signs that commonly are encountered at the bedside in pediatric practice. References given at the end of each paragraph are useful for further study.

(Continued on page A-80)

tran

Side effects, tolerance and cumulation are rare with CLORTRAN, Wampole's stable capsules of chlorobutanol. Chlorobutanol is among the safest of all sedative-hypnotics, and is superior to chloral hydrate in that it does not upset the stomach. In fact, its carminative and anesthetic effect on the gastric mucosa has also established it as an antinauseant—in motion sickness, pregnancy, etc. The opinion of Dr. Beckman* is significant: "I think the profession would do well to use this drug (chlorobutanol) more often in insomnia." CLORTRAN Capsules now make chlorobutanol available in completely stable form, its potency protected, its shelf life indefinite.

Not contraindicated in cardiac, hepatic or renal disease, except in severe cases.

*Beckman, H. *Treatment in General Practice* (Saunders) 1948.

clortran
Sedative — Hypnotic — Antinauseant

Samples and literature on request

BUTADONNA

LABORATORIES

HENRY K. WAMPOLE & COMPANY, INC. • 440 Fairmount Ave., Phila. 23, Pa.

The final section of the book discusses supervision during age periods beginning with prenatal and extending through adolescence. Here the matter of psychologic growth and patterns is emphasized. The appendix contains a useful table of measurements for all pediatric age groups. The figures were supplied by the Harvard School of Public Health and the Iowa Child Welfare Research Station.

The presence of few graphs, tables or illustrations helps to keep the size of the book small enough to make it a handy reference.

S. D. M.

► BABCOCK'S PRINCIPLES AND PRACTICE OF SURGERY

Edited by Karl C. Jonas, M.D., Department of Surgery, Temple University School of Medicine and Hospital, Philadelphia, with 56 contributors. Ed. 2. 1,543 pages with 1,006 illustrations and 10 colored plates. 1954, Lea & Febiger, Philadelphia. $18.00.

After an interval of 10 surgically progressive years of war and peace, a completely revised edition of the familiar "Principles and Practice of Surgery" has been published honoring W. Wayne Babcock. The present edition incorporates extensive alterations in text and illustration.

The more than 50 collaborating authors and coauthors, chosen to represent excellent opinion in various subdivisions of general surgery, have made their presentations both brief and complete. A selected bibliography is found at the end of most sections, which should prove an adequate scaffold for more complete individual study. Much credit for this excellent textbook must naturally be given to Dr. Jonas, and the reader will appreciate readily the editorial efficiency as he studies the volume.

It is unfortunate that published texts cannot forever keep abreast with the extensive advances being reported constantly in medical literature; somewhere there must be a "deadline" called by the editor. With such repetition of an old warning particularly aimed at the student, the reviewer wholeheartedly applauds Dr. Jonas and his collaborators and recommends this book to all students and practitioners of surgery.

J. S. W.

(Continued on page A-81)

Vitamins at a truly therapeutic level for all stress conditions

Theron
(STUART)

Tablets:	Liquid:
30's and 100's	4 oz. bottles
Dose:	Dose:
1 tablet daily	1 teaspoonful daily

Another Lederle "First"!

MUMPS VACCINE

A practical immunizing antigen for prevention of mumps in children or adults where indicated.
Immunizes for about one year.
Packages: 2 cc. vial (1 immunization),
10 cc. vial (5 immunizations).

LEDERLE LABORATORIES DIVISION
AMERICAN Cyanamid COMPANY
PEARL RIVER, NEW YORK

Lederle

► CYSTIC FIBROSIS OF THE PANCREAS IN INFANTS AND CHILDREN

By Charles D. May, M.D., Professor and Chairman, Department of Pediatrics, State University of Iowa, Iowa City. 93 pages with 16 illustrations. 1954, Charles C Thomas, Springfield, Illinois. $3.00.

The author of this monograph is well known in pediatric circles as an able investigator and teacher.

The subject matter includes a historical review, the pathology found in the pancreas and lungs, the clinical manifestations, diagnostic aids with minute directions for carrying out duodenal intubation and checking for pancreatic enzymes, and treatment of various manifestations of the disease. A bit of philosophy based on the author's experience with the disorder is injected at the end of his discussion. Exception is taken to some of the currently published theories of origin and treatment of cystic fibrosis of the pancreas, with plausible explanations by the author, who is in a position to be critical of work in this field which he has followed so closely for many years.

S. D. M.

Books received will be acknowledged in this department each month. As space permits, books that are of principal interest to our readers will be reviewed more extensively.

Doctors' Legacy. Edited by Laurence Farmer, M.D. 267 pages. 1955, Harper & Brothers, New York. $3.50.

Hysterectomy. By John C. Burch, Director, and Horace T. Lavely, Member, The Burch Clinic, Nashville, Tennessee. 94 pages, illustrated. 1954, Charles C Thomas, Springfield, Illinois. $5.50.

A Textbook of Neurology. By H. Houston Merritt, M.D., Professor of Neurology, Columbia University, New York City. 746 pages with 181 illustrations. 1955, Lea & Febiger, Philadelphia. $12.50.

Viral and Rickettsial Diseases of the Skin, Eye and Mucous Membranes of Man. By Harvey Blank, M.D. and Geoffrey Rake, M.B., University of Pennsylvania School of Medicine, Philadelphia. 285 pages with 63 illustrations and 6 color plates. 1955, Little, Brown & Company, Boston. $8.50.

Regional Allergy of the United States, Canada, Mexico and Cuba. Edited by Max Samter, M.D., Chief, Allergy Clinic, Research and Educational Hospitals of the University of Illinois, and Oren C. Durham, M.D., Lecturer in Allergy, University of Illinois College of Medicine, Chicago, with 39 contributors. 395 pages with map drawings. 1955, Charles C Thomas, Springfield, Illinois. $8.50.

"Premarin" relieves menopausal symptoms with virtually no side effects, and imparts a highly gratifying "sense of well-being."

"Premarin"®—Conjugated Estrogens (equine)

5511

NEW

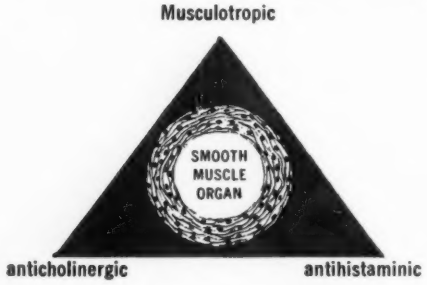
TRI-SYNAR

triple synergism in the control of SPASM

Tri-Synar is predominantly a parasympathetic sedative and combines anticholinergic, antihistaminic and direct musculotropic action.

Now, with Tri-Synar, you can control smooth muscle spasm with only a fraction of the usual dose of belladonna. Extensive clinical studies show that effects are truly therapeutic. Belladonna side actions are seldom, if ever, encountered.

Triple synergism—implying triple points of attack—greatly increases the range of usefulness of Tri-Synar

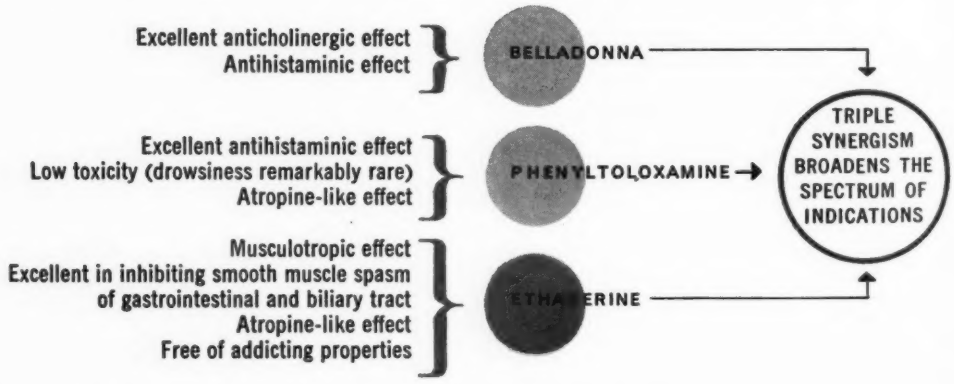


Each Tri-Synar tablet contains:

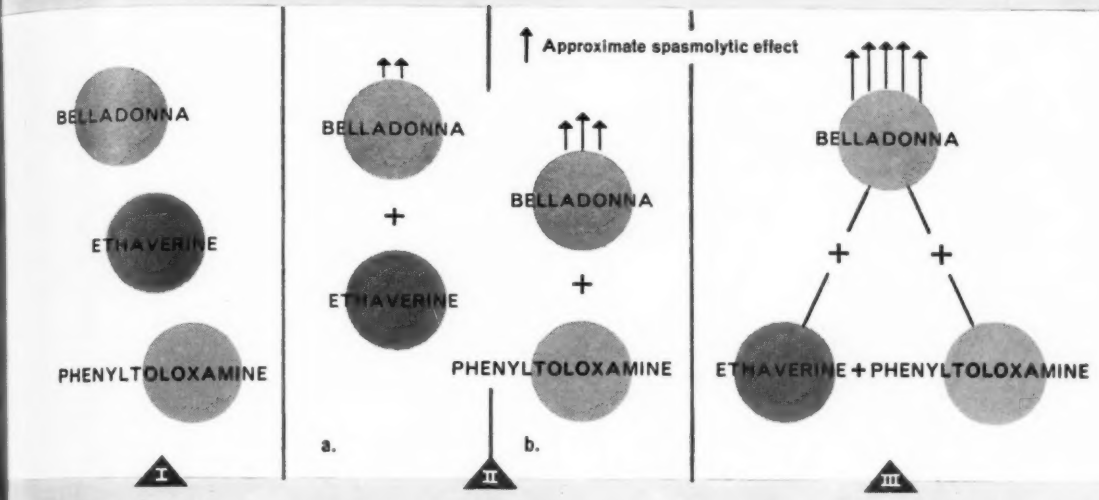
Powdered Extract of Belladonna*	4.1 mg.
Phenyltoloxamine	20.0 mg.
Ethaverine Hydrochloride	20.0 mg.

*The amount of belladonna is equivalent to 2.5 minims of tincture of belladonna.

Supplied in bottles of 100 tablets.



TRIPLE SYNERGISM PROFOUNDLY MAGNIFIES THERAPEUTIC EFFICACY



None of the three drugs in the small amounts used produces an appreciable effect, **when given alone.**

a. When ethaverine is added to belladonna, the effect is negligible.

b. When phenyltoloxamine is added to belladonna, a definite though moderate effect occurs.

When all three drugs—belladonna, ethaverine and phenyltoloxamine—are applied simultaneously, a profound effect (100% protection against experimentally induced spasm) is evident.

TRI-SYNAR

Clinical Indications

- **Spastic and functional conditions of the gastrointestinal tract (including spastic colitis, epigastric distress, adjunctive therapy in peptic ulcer, spastic constipation).**
- **Biliary syndrome (dyskinesia, cholecystitis)**
- **Primary dysmenorrhea • Vomiting of pregnancy**
- **Dysuria and mild ureteral spasms**

Dosage and Administration

1 tablet t.i.d. or q.i.d.; in the more severe cases, 2 tablets t.i.d.

THE ARMOUR LABORATORIES

A DIVISION OF ARMOUR AND COMPANY • KANKAKEE, ILLINOIS

NO drowsiness
NO depression
NO nausea
NO sweats
NO blood dyscrasia
NO addiction

Nothing but Quick, High-Level Analgesia with **Strascogesic**

BY Rx ONLY

FORMULA

Acetyl-p-aminophenol	300 mg.
Salicylamide	200 mg.
Raphetamine (racemic amphetamine phosphate monobasic)	2 mg.
Metropine® (methyl atropine nitrate)	0.5 mg.

Write for complimentary supply.

Strasenburgh
FOUNDED 1886

R. J. STRASENBURGH CO., ROCHESTER 14, N. Y., U.S.A.

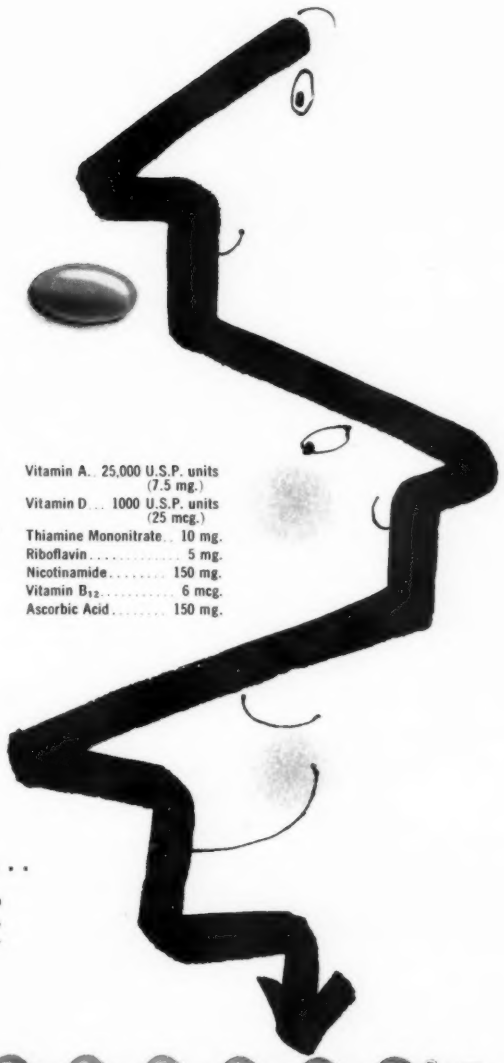
IN

- Arthritic Pain
- Headache
- Dysmenorrhea
- Tension Headache
- Low Back Pain
- Migraine
- Colds and Grippe
- Dental Pain
- Post Partum Pain

EFFECTIVE DOSE

1 to 2 tablets every 3 to 4 hours

The only THERAPEUTIC FORMULA multivitamin tablet...



this SMALL...

this POTENT...

Vitamin A	25,000 U.S.P. units (7.5 mg.)
Vitamin D	1000 U.S.P. units (25 mcg.)
Thiamine Mononitrate	10 mg.
Riboflavin	5 mg.
Nicotinamide	150 mg.
Vitamin B_{12}	6 mcg.
Ascorbic Acid	150 mg.

this PLEASING...

A solid tablet, no fish-oil taste, odor, burp or allergies.

is

OPTILETS® Abbott

(ABBOTT'S THERAPEUTIC FORMULA MULTIVITAMINS)

c53107

Shedding a new light on the flashlight problem!

Positive "ON" switch – push to light
Positive "OFF" switch – push to turn off
Heavy, one piece, spring steel clip – won't "lose its grip" even after years of use
Welch Allyn chrome plate and contrasting green vinyl keeps its brilliant good looks indefinitely
Only one cap to unscrew to replace batteries or lamp. Special machine thread for easy engagement or disengagement
NO. 777
Actual size

WELCH ALLYN "Professional" FLASHLIGHT

Here at last is a pocket flashlight exclusively designed for medical use and made with the same care and quality standards as all Welch Allyn instruments.

If you have ever cursed the idiosyncrasies of ordinary mass production flashlights, you will want to see and try this professional-calibre instrument. We believe that no pocket flashlight on the market today can remotely compare with it for quality of construction or clarity of projected light.

Ask to see the Welch Allyn "Professional" at your surgical supply dealer now. $5.00.

Welch Allyn, Inc.

Electrically Illuminated Diagnostic Instruments

Skaneateles Falls, N. Y.

Hand made diagnostic instrument lamp (Welch Allyn No. 3) gives clear, brilliant pencil of light with minimum trace of disturbing shadows found in ordinary flashlights. Lamp is held by rubber collar – no screw threading.

Cortril® tablets

(brand of hydrocortisone)

the predominant anti-rheumatic hormone, "...highly effective in suppressing the activity of the disease and... maintaining control of rheumatic manifestations."[1] Side actions are "fewer and less pronounced."[2]

supplied: scored tablets, 10 mg. and 20 mg.

also available: CORTRIL Topical Ointment

CORTRIL Acetate Aqueous Suspension for intra-articular injection

CORTRIL Acetate Ophthalmic Ointment

TERRA-CORTRIL* Ophthalmic Suspension

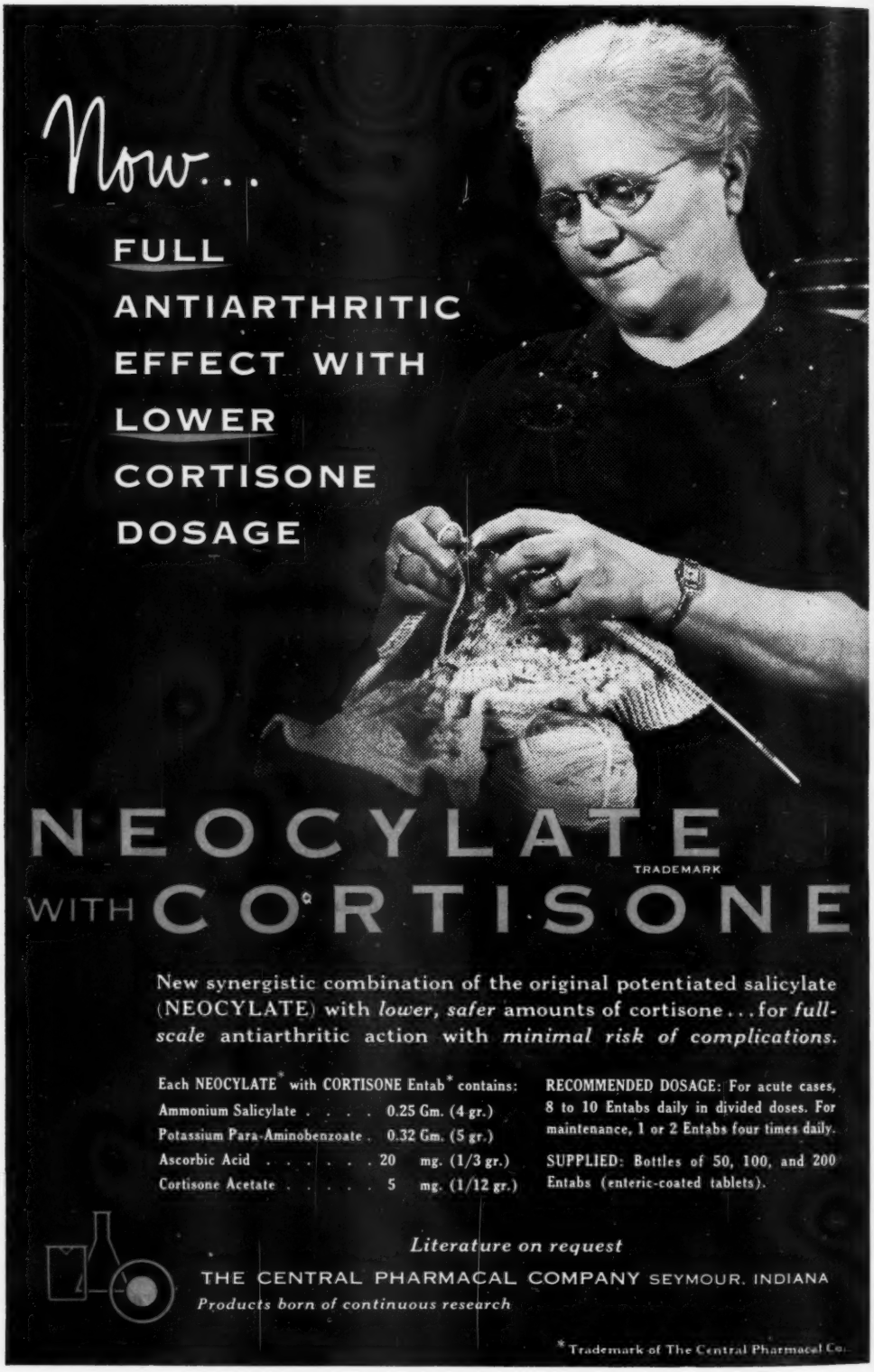
TERRA-CORTRIL Topical Ointment

New easier-to-write, easier-to-remember names

Pfizer PFIZER LABORATORIES, *Brooklyn 6, New York*
Division, Chas. Pfizer & Co., Inc.

references: 1. Boland, E. W., and Headley, N. E.: J.A.M.A. 148:981, March 22, 1952. 2. Boland, E. W.: M. Clin. North America, Philadelphia and London, W. B. Saunders Company, March, 1954, p. 337.

*brand of oxytetracycline and hydrocortisone



New synergistic combination of the original potentiated salicylate (NEOCYLATE) with *lower, safer* amounts of cortisone . . . for *full-scale* antiarthritic action with *minimal risk of complications.*

Each NEOCYLATE* with CORTISONE Entab* contains:

Ammonium Salicylate	0.25 Gm. (4 gr.)
Potassium Para-Aminobenzoate	0.32 Gm. (5 gr.)
Ascorbic Acid	20 mg. (1/3 gr.)
Cortisone Acetate	5 mg. (1/12 gr.)

RECOMMENDED DOSAGE: For acute cases, 8 to 10 Entabs daily in divided doses. For maintenance, 1 or 2 Entabs four times daily.

SUPPLIED: Bottles of 50, 100, and 200 Entabs (enteric-coated tablets).

Literature on request

THE CENTRAL PHARMACAL COMPANY SEYMOUR, INDIANA

Products born of continuous research

* Trademark of The Central Pharmacal Co.

FOR SUPERIOR PERFORMANCE –

POLYCYCLINE *is a tetracycline produced by the unique Bristol process of direct fermentation from a new species of Streptomyces. Its basic structural formula (as compared with older analogues) gives significantly superior clinical performance.*

The most modern
Broad-Spectrum Antibiotic

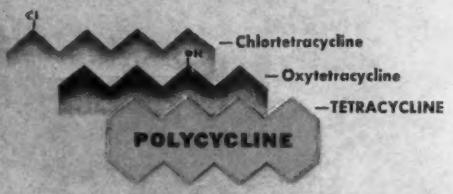
AVAILABLE AS

POLYCYCLINE
SUSPENSION '250'

Ready to use without reconstitution, stable for 18 months without refrigeration.
Really palatable.
— in concentration of 250 mg. per 5 cc., in bottles of 30 cc.

POLYCYCLINE

TRADE MARK (TETRACYCLINE BRISTOL)



Polycycline is a tetracycline produced by the unique Bristol process of direct fermentation from a new species of Streptomyces isolated by Bristol Laboratories . . . rather than made by the chemical modification of older broad-spectrum antibiotics.

POLYCYCLINE
PEDIATRIC DROPS

For accurate dosage in small amounts:
— in concentration of 100 mg. per cc. in bottles of 10 cc. with dropper calibrated for administration of 25 or 50 mg.

Like its older analogues, it is

EFFECTIVE IN BROAD RANGE

against gram-positive and gram-negative organisms, certain rickettsiae and large viruses.

Unlike its older analogues, it has a

BASIC STRUCTURAL FORMULA

no chlorine atom (present in chlortetracycline); and no hydroxyl group (present in oxytetracycline).

SUPERIOR CLINICAL PERFORMANCE

greater tolerance: markedly lower incidence and severity of adverse side effects.

greater solubility than chlortetracycline, yielding quicker absorption and wider diffusion in body fluids and tissues.

greater stability in solution than chlortetracycline or oxytetracycline, permitting higher, more sustained blood levels.

POLYCYCLINE
CAPSULES

Handy form for oral use, in two potencies:
— in capsules of 100 mg., in bottles of 25 and 100.
— in capsules of 250 mg., in bottles of 16 and 100.

POLYCYCLINE
INTRAMUSCULAR

For deep intramuscular injection.
— in vials of 100 mg. per vial.

Bristol
LABORATORIES INC.
SYRACUSE, NEW YORK

When you think of Tetracycline, think of POLYCYCLINE

for your tense peptic ulcer patients

new
ANTRENYL®-PHENOBARBITAL

depresses... ...gastrointestinal motility

...gastric acid secretion

...nervousness and irritability so common in the ulcer diathesis

SUPPLIED: Antrenyl-Phenobarbital Tablets (scored), each tablet containing 5 mg. Antrenyl and 15 mg. phenobarbital.

Other forms: Tablets, 5 mg. Syrup, 5 mg. per 4-ml. teaspoonful. Pediatric Drops, 1 mg. per drop.

CIBA
SUMMIT, N. J.

Antrenyl® bromide (oxyphenonium bromide CIBA)

2/2059M

* New DRUGS AND INSTRUMENTS

Information published in this department is supplied by the manufacturers of the products described.

• AMPOULES HISTALOG

PURPOSE: Histamine analogue to stimulate gastric secretion without side effects to patient. Replaces histamine acid phosphate in testing gastric secretory capabilities.
DESCRIPTION: 3-beta-aminoethylpyrazole dihydrochloride.
DOSAGE AND ADMINISTRATION: Administered intramuscularly or subcutaneously, minimal effective dose is 0.5 mg. per kilogram of body weight.
HOW SUPPLIED: Ampules containing 50 mg. Histalog.
PRODUCER: Eli Lilly and Company, Indianapolis, Ind.

• NORGE-AIRE PURIFIER

DESCRIPTION: Unit removes 99.4 per cent of the pollen, mold spores, house dust and other airborne irritants from room air by electrostatic precipitation. It can be used as a window unit or table model.
PRODUCER: Norge Division, Borg-Warner Corporation, Chicago, Ill.

• SUCRAPHEN
(New Package Form)

DESCRIPTION: Sucraphen, a decongestion solution, is now being packaged in a plastic white spray bottle with fine tip to insure minute particle size. Operating instructions are permanently silk-screened on the bottle.
PRODUCER: Smith-Dorsey, division of The Wander Co., Lincoln, Nebr.

• SALCORT

PURPOSE: Relief of rheumatic fever, rheumatoid arthritis, bursitis, Still's disease and neuromuscular affections.
COMPOSITION: Each tablet contains:

Cortisone acetate	2.5 mg.
Sodium salicylate	0.3 gm.
Aluminum hydroxide gel, dried	0.12 gm.
Calcium ascorbate (equivalent to 50 mg. ascorbic acid)	60 mg.
Calcium carbonate	60 mg.

CAUTION: Use with caution in patients with tuberculosis, chronic nephritis, acute psychosis, Cushing's syndrome, peptic ulcer and those prone to thrombophlebitis.
DOSAGE AND ADMINISTRATION: In severe conditions, the initial dose is 12 to 16 tablets and a maintenance of six to eight tablets; in moderately severe, initial dose is six to eight with four to six maintenance; and in mild or moderate, six tablets initial and three to four maintenance.
HOW SUPPLIED: Bottles of 100 pink, monogrammed tablets.
PRODUCER: The S. E. Massengill Co., Bristol, Tenn.

(Continued on page A-92)

migraine...

CAFERGOT®

Ergotamine tartrate
1 mg.
with caffeine 100 mg.

Average Dosage: 2 to 6 tablets
at onset of the attack

SANDOZ

Sandoz
PHARMACEUTICALS
HANOVER, N. J.

• METHOTREXATE

PURPOSE: Folic acid antagonist to treat leukemia in children.
COMPOSITION: 4-amino-N^{10}-methyl pteroylglutamic acid.
HOW SUPPLIED: Bottles of 100, 2.5 mg. tablets.
PRODUCER: Lederle Laboratories Division, American Cyanamid Co., Pearl River, N.Y.

• ALLEGRO HEARING AID

DESCRIPTION: New three-transistor hearing aid is no larger than a cigarette lighter, can be hidden in a woman's hair style or concealed in the folds of a man's necktie. The instrument has 10 different kinds of receivers which regulate frequency patterns for various types of hearing loss. Other components include a magnetic microphone which absorbs wear and resists extremes in temperature and humidity and a sealed volume control protected from dust and lint. A barrette for securing the instrument in a woman's hair is optional.
PRODUCER: Beltone Hearing Aid Company, Chicago, Ill.

• LACTINEX® GRANULES
(New Dosage Form)

PURPOSE: New dosage form of Lactinex tablets, particularly for pediatric and geriatric patients.
COMPOSITION: Each 1 gm. packet contains standardized viable mixed culture of *Lactobacillus acidophilus* and *bulgaricus*.
INDICATIONS FOR USE: Re-establish normal physiology of the intestinal tract and to treat uncomplicated diarrhea, including that due to antibiotic therapy.
DOSAGE AND ADMINISTRATION: Add contents of a packet to cereal, food or milk before feeding or serving, three or four times a day.
HOW SUPPLIED: 1 gm. packets in boxes of 12.
PRODUCER: Hynson, Westcott & Dunning, Inc., Baltimore, Md.

(Continued on page A-94)

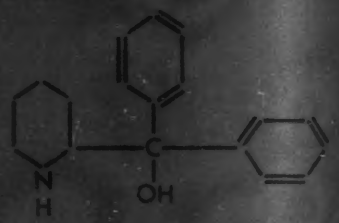
Rx INFORMATION

Meratran

Actions: Meratran is an entirely new and different central motivant that acts on the subcortical area of the brain. This portion of the brain is thought to expedite or facilitate intellectual activity which originates in the cortex. Meratran, when administered to the emotionally tired and depressed patient, subtly restores him to his usual level of alertness, interest and productivity.[4,5]

Indications: Emotional fatigue, unhappiness of more common type (financial worry, social stress). Situational stress or mild depression. Adjunctive therapy in certain psychoses and psychoneuroses.[4,7]

Composition: alpha-(2-piperidyl) benzhydrol hydrochloride with the following structure:



Dosage: For emotional fatigue and mild depression, 1 to 6 mg. daily. Individual patient response must be observed and daily dosage and duration of administration adjusted to patient response.

Supplied: Small pink tablets containing 1 mg. Meratran (pipradrol) hydrochloride.* Bottles of 100.

1. Brown, B. T. and Werner, H. W.: Pharmacologic Studies on a New Type of Central Stimulant, Federation Proc. 12:304, 1953. 2. Brown, B. T. and Werner, H. W.: Pharmacologic studies on a new central stimulant, alpha-(2-piperidyl) benzhydrol hydrochloride, J. Pharm. and Exp. Ther. 110:180, 1954. 3. Blake, L. E., et al.: Tissue distribution and excretion of alpha-(2-piperidyl) benzhydrol hydrochloride. Federation Proc. 13:237, 1954. 4. Heath, R. C.: Discussion of paper by Howard D. Fabing (alpha-(2-piperidyl) benzhydrol hydrochloride, a new central stimulant in the treatment of blepharospasm, spasmodic torticollis and narcolepsy) presented before the American Neurological Association, Atlantic City, June 14, 1954. 5. Fabing, H. D., Hawkins, J. R., Moulton, J. A. L.: Clinical studies on alpha-(2-piperidyl) benzhydrol hydrochloride, a new antidepressant drug. Presented before the American Psychiatric Association, St. Louis, Missouri, May 3, 1954. 6. Fabing, H. D.: Alpha-(2-piperidyl) benzhydrol hydrochloride, a new central stimulant, in the treatment of blepharospasm, spasmodic torticollis and narcolepsy; preliminary report (Motion Picture Demonstration). American Neurological Association, June 14, 1954. 7. Hinsie, L. E.: Discussion of paper (reference 2), American Psychiatric Association, May 3, 1954.
*Alpha-(2-piperidyl) benzhydrol hydrochloride.

The Wm. S. Merrell Company
CINCINNATI
New York • St. Thomas, Ontario
PIONEER IN MEDICINE FOR OVER 128 YEARS

V. H. MERATRAN

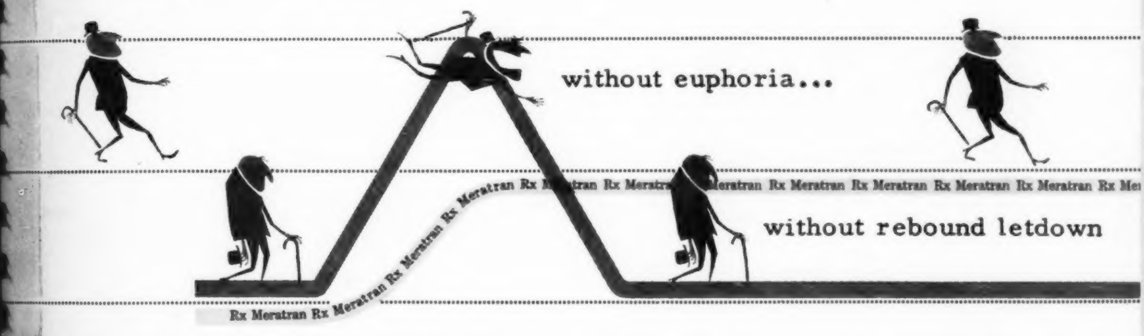
NEW DRUG

Meratran

(pipradrol hydrochloride)

a unique central motivant for the treatment of the emotionally tired and depressed patient

subtly returns your emotionally fatigued and depressed patients to their usual level of alertness, interest and productivity...



Meratran is chemically new and clinically different. It acts upon the subcortical area of the brain. In doses easily adjusted to patient needs its onset of action is subtle -- comfortable -- prompt. Its effectiveness is prolonged.[1-3]

. no appreciable effect on blood pressure and respiration
. restores needed sense of well being
. no tolerance or drug habituation
. normal appetite undisturbed
. no jitters - no apprehension
. little or no insomnia
. wide range of safety
. no rebound letdown

an exclusive product of Merrell Since 1828 research

• FERROLIP® PLUS

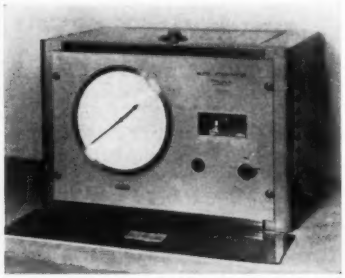
PURPOSE: Liquid hematinic for treatment of macrocytic and microcytic anemias.
COMPOSITION: A 5 cc. dose contains:

Ferrolip (iron cheline citrate)	200 mg.
Liver fraction 1, N.F.	200 mg.
Folic acid	0.5 mg.
Vitamin B_{12} crystalline U.S.P.	10 μg.
Thiamine hydrochloride	2 mg.
Riboflavin	1 mg.
Pyridoxine hydrochloride	0.5 mg.

HOW SUPPLIED: 8 oz. and gallon bottles.
PRODUCER: Flint, Eaton & Co., Decatur, Ill.

• COLPROSTERONE

PURPOSE: Vaginal progesterone therapy.
DESCRIPTION: Tablet absorbed through the vaginal mucosa, thus bypassing portal circulation.
HOW SUPPLIED: Tablets, 25 and 50 mg., individually sealed in strips of three units, boxes of 30.
PRODUCER: Ayerst Laboratories, New York, N.Y.



• ARITHMOMETER

DESCRIPTION: Complete blood counts can be made automatically in less than two minutes. A blood sample is placed in the counting chamber. A built-in microscope with darkfield illumination forms an image of the cells in the plane of a precision aperture located in front of a photomultiplier. As the counting chamber is scanned by a light beam, cells with images either wholly or partly within the aperture area are detected. (A second scanning stage, using an aperture of modified dimensions, compensates for cells only partially shown.) The photomultiplier detects the image of each cell, and the resulting pulses of electronic energy are fed into a simple computer circuit. The count is then displayed on a large dial calibrated to indicate number of red cells in millions per cubic millimeter and white cells in tens of thousands per cubic millimeter.

Complete information available from:
PRODUCER: Jarrell-Ash Company, 26 Farwell Street, Newtonville, Mass.

• MICROTHERM DIATHERMY MACHINE

DESCRIPTION: New model CMD-10 Microtherm Diathermy is designed with vital portions of unit in top section. New shut-off monitors prevent unit misuse.
PRODUCER: Raytheon Manufacturing Company, Waltham, Mass.

• LACTOFORT

PURPOSE: Nutritive supplement designed to correct chronic lack of appetite in young children and infants.
COMPOSITION: Tasteless powder which contains in each 2.3 gm.

1-Lysine (from 1-lysine monohydrochloride)	500 mg.
Vitamin A	3750 U.S.P. units
Vitamin D	1000 U.S.P. units
Thiamine mononitrate	0.75 mg.
Riboflavin	1.25 mg.
Pyridoxine hydrochloride	0.75 mg.
Niacinamide	7.5 mg.
Calcium pantothenate	7.5 mg.
Vitamin B_{12}	2.5 μg.
Folic acid	0.25 mg.
Ascorbic acid (from sodium ascorbate)	75 mg.
Iron ammonium citrate green (elemental iron 7.5 mg.)	50 mg.
Calcium gluconate (elemental calcium 130 mg.)	1.45 gm.

HOW SUPPLIED: Bottles containing 46 gm.
PRODUCER: White Laboratories, Inc., Kenilworth, N. J.

• 'SCOTCH' BRAND AUTOCLAVE TAPE No. 222

PURPOSE: Seal and identify autoclaved bundles and items.
DESCRIPTION: A moisture-resistant tape with built-in striping which responds only to high heat, steam and pressure of autoclaving. Tape sticks at touch and does not leave sticky residue when removed.
INDICATIONS FOR USE: Wrap bundles for storage; label trays, pans, jars, canisters and tubes; indicate items have been autoclaved.
PRODUCER: Minnesota Mining and Manufacturing Co., St. Paul, Minn.

(Continued on page A-98)

Now! Get Germicidal Activity Greater Than Bichloride—Yet Non-Toxic!

A useful Dermatologic Powder that contains: Benzalkonium Chloride, Hexachlorophene, Magnesium Carbonate in a fine impalpable Powder Base.

SIG — Simply dust onto affected areas.

INDICATED

1. *Ammoniacal Dermatitis*—Eliminates Rash and Odor.
2. *Excoriation* from Infectious Dermatitis and Diarrhea.
3. Under *Casts, Trusses, Prosthetic Appliances, Athletic Supporters and Girdles.*
4. *Heat rash, Bed sores, Athletic Supporter Itch.*
5. Certain types of weeping and itching *ECZEMA.*
6. *Miliaria.*
7. *Intertrigo.*

Samples on request.

MAROC POWDER

Maroc Company, Box 590, Oak Park, Ill.

HOTEL SIEBER

. . . recommended

by experienced travelers for convenience, comfort and economy . . .

A SPECIAL INVITATION to our out-of-town friends to spend one week-end each month with us. You can't afford NOT to bring your family. Only $6.00 per day in rooms to accommodate three or four. Rate prevails only on Friday and Saturday nights. When shall we expect YOU?

NORTH HUDSON at 12th

OKLAHOMA CITY

Now! Prove to yourself:

Here's a Whole Protein Supplement THAT TASTES AS GOOD AS ICE CREAM!

Meritene®

WHOLE PROTEIN SUPPLEMENT

MORE NUTRITIOUS THAN EGGNOG . . . AND COSTS LESS TO SERVE! MERITENE mixes with milk in seconds (and *stays* mixed) to provide ideal between-meal nourishment for hospital and convalescent patients. One eight-ounce serving of MERITENE Milk Shake provides over one-quarter the N. R. C. Daily Dietary Allowances for the average active man in protein and all the essential vitamins and minerals. Have a MERITENE Milk Shake at our expense—just mail the coupon below —and prove to yourself that MERITENE is a high protein supplement that actually *tastes good!*

Compare the Nutritive Value of Meritene vs. Eggnog

	8 oz. EGGNOG*		8 oz. MERITENE MILK SHAKE	
Protein	14.6	gm.	17.9	gm.
Fat	15.0	gm.	9.5	gm.
Carbohydrate	24.7	gm.	28.6	gm.
Iron	1.5	mg.	4.46	mg.
Calcium	.31	gm.	.58	gm.
Phosphorus	.33	gm.	.46	gm.
Vitamin A	940	I.U.	2380	I.U.
Thiamine	.14	mg.	.77	mg.
Riboflavin	.56	mg.	1.64	mg.
Ascorbic Acid	3.0	mg.	25.7	mg.
Vitamin D	31	I.U.	161	I.U.
Cholesterol	299	mg.	38.4	mg.
Calories	291	mg.	270	

*Eggnog nutritive value from Bowes & Church, 7th Ed. 1951.

Meritene® —*a product of*

THE DIETENE COMPANY

Sold through drug stores. 1 lb. can $1.69; 5 lb. can $7.74. (Both sizes plain or chocolate). For institutions—25 lb. can (plain only).

Not advertised to the laity

CLIP AND MAIL FOR FREE 1 LB. SAMPLE

Because of customs regulations, offer limited to U. S. only

MERITENE, care of The Dietene Company **MP 35**
3017 Fourth Ave. S., Minneapolis 8, Minn.

Name_____ MD

Address_____

City_____ Zone____ State_____

Areas of Clinical Study / One of a Series

ANEMIA

accompanying or following infection

The "low-grade" anemia which so often accompanies or follows infection in children or adults, often is complicated by depressed bone-marrow function.[1]

Cobalt appears to be the only known agent which can be used to stimulate the hemopoietic function of bone-marrow.

RONCOVITE (*the original clinically proved pure cobalt-iron product*) *provides the long-missing factor in the treatment of both iron-deficiency and "chronic low-grade" (secondary) anemia. The presence of cobalt may actually "force" the utilization of iron[2] where bone-marrow inhibition is present.*

Extensive clinical evidence documents both the hemopoietic effectiveness and safety of Roncovite.

Clinical Proof—in Chronic Low-Grade Anemia

"REFRACTORY ANEMIA"

"With cobalt, an effective therapy for the anemia accompanying infection is possible."[3]

CHRONIC SUPPURATIVE INFECTION

"In all patients a reticulocytosis was observed within 6 days. This was followed by increases in red-cell counts, in hemoglobin values, in blood volume and in total circulating hemoglobin."[4]

POST-INFECTION ANEMIA

Excellent results[5] have been reported in post-infection anemia.

SUPPLIED:

RONCOVITE TABLETS
Each enteric coated, red tablet contains:
Cobalt chloride..... 15 mg.
Ferrous sulfate exsiccated..... 0.2 Gm.
Bottles of 100

RONCOVITE-OB
Each enteric coated, red capsule-shaped tablet contains:
Cobalt chloride..... 15 mg.
Ferrous sulfate..... 0.2 Gm.
Calcium lactate..... 0.9 Gm.
Vitamin D..... 250 units
Bottles of 100

RONCOVITE DROPS
Each 0.6 cc. (10 drops) provides:
Cobalt chloride (Cobalt 9.9 mg.)..... 40 mg.
Ferrous sulfate..... 75 mg.
Bottles of 15 cc. with calibrated dropper.

DOSAGE:

One tablet after each meal and at bedtime. Children 1 year or over, 0.6 cc. (10 drops); infants less than 1 year, 0.3 cc. (5 drops) once daily diluted with water, milk, fruit or vegetable juice.

1. Wintrobe, M. M.: Clinical Hematology, Philadelphia, Lea & Febiger, 1951, p. 419.
2. Wintrobe, M. M. et al.: Blood *2*:323 (1947).
3. Weissbecker, L.: Dtsch. M. Wschr. *75*:116 (1950).
4. Robinson, J. C., et al.: The New England J. M. *24*:749 (1949).
5. Weissbecker, L., and Maurer, R.: Klin. Wchnschr. *24-25*:855 (1947).

Bibliography of 192 references available on request.

LLOYD BROTHERS, INC.
Cincinnati, Ohio

RONCOVITE

The original, clinically proved, pure *cobalt-iron product*

In the Service of Medicine Since 1870

. . . no two hypertensives are alike

A. C. can't get along without Rauvera

Diagnosis: Fixed Essential Hypertension, Grade III

A. C.: Male, Negro, 31. Blood pressure 225/145. Pulse rate 110. Excited, headaches, dizziness. Got good but not optimal reductions with Rautensin after 7 weeks, was therefore put on ***combination therapy***—Rauvera, 4 tablets daily at 4-hour intervals after meals. (Each tablet contains 1 mg. mixed purified Rauwolfia alkaloids—the alseroxylon fraction—and 3 mg. mixed Veratrum alkaloids—alkavervir.) This accomplished a prompt additional reduction of B. P. to 125/80 and of pulse rate to 84. Dizziness, headaches and excitability disappeared.

Your hypertensive patients with a similar history will respond well to Rauvera.

Rauvera® is a DORSEY preparation. Supplied in bottles of 100, 500, and 1,000 tablets.

Smith-Dorsey • Lincoln, Nebraska • A Division of The Wander Company

A. C. can't get along without Rauvera . . . for no two hypertensives are alike.

• TROPH-IRON

PURPOSE: Stimulate appetite, promote growth, correct nutritional iron deficiency.
COMPOSITION: Concentration of vitamins B_{12} and B_1 and iron in the form of ferric pyrophosphate.
DESCRIPTION: A cherry-flavored liquid, free from sharp, rusty taste.
INDICATIONS FOR USE: Patients of all ages with symptoms of fatigue, dizziness, headache, insomnia, irritability and constipation from an inadequate diet.
DOSAGE AND ADMINISTRATION: Orally, 1 teaspoonful daily.
HOW SUPPLIED: 4 fluid oz. bottles.
PRODUCER: Smith, Kline & French Laboratories, Philadelphia, Pa.

• TYZINE

PURPOSE: Nasal decongestant used in treatment of rhinitis associated with the common cold, hay fever, sinusitis and nasopharyngitis.
DESCRIPTION: Nasal spray in a plastic squeeze bottle.
COMPOSITION: The yellow solution is 0.1 per cent tetrahydrozoline hydrochloride.
HOW SUPPLIED: 1 oz. plastic bottles containing 15 cc. of solution each.
PRODUCER: Pfizer Laboratories, division of Chas. Pfizer & Co., Inc., Brooklyn 6, N.Y.

• ORTHO-ILLUMINATOR® B

DESCRIPTION: Instrument is designed for microscopy with transmitted light, employing Koehler principle of maximum numerical aperture obtained without filament image projection. Three point positioning device provides permanent alignment with microscope. Optimum resolution in microscope image obtainable with Abbe, aplanatic or achromatic condensers. Built-in features include intensity finger-tip control, color filters, and adjustable field-of-view diaphragm.

Information regarding accessories obtainable from:
PRODUCER: Silge & Kuhne, San Francisco, Calif.

(Continued on page A-100)

"THIOSULFIL"®
Brand of sulfamethylthiadiazole
safest, most effective sulfonamide
for urinary tract infections
The high degree of solubility of "Thiosulfil" combined with its high bacteriostatic activity and low acetylation rate insure rapid and effective action with virtually no side effects.
Ayerst Laboratories • New York, N. Y. • Montreal, Canada
Ayerst
5534

. . . no two hypertensives are alike

B. D. needs Rautensin

Diagnosis: Hypertension, Grade II, labile

B. D.: Female, white, 62. Average blood pressure 220/115, pulse: 95. Irritable, sleeps poorly. Placed on twice average dose of Rautensin—4 tablets per day in two doses, after luncheon and at bedtime. Each tablet contains 2 mg. of purified Rauwolfia alkaloids—alseroxylon fraction. After 12 weeks the gradual reduction of her readings reached satisfactory levels. Blood pressure 155/90, pulse 80. She now sleeps well, is no longer irritable; occasionally takes an extra cup of coffee if the sedative effect is too pronounced. No postural hypotension encountered.

Rautensin* is a DORSEY preparation. Supplied in bottles of 100, 500, and 1,000 tablets.
Smith-Dorsey • Lincoln, Nebraska • A Division of The Wander Company

*TRADE MARK

B. D. needs Rautensin . . . for no two hypertensives are alike.

• MICTINE

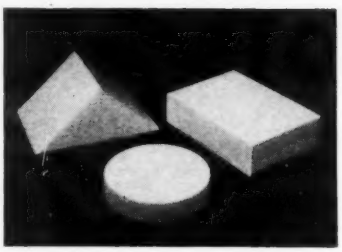
PURPOSE: Diuretic therapy for edematous patients.
COMPOSITION: A brand of aminometramide, 1-allyl-3-ethyl-6-aminotetrahydro-pyrimidinedione.
INDICATIONS FOR USE: Primarily indicated for patients with mild congestive heart failure to control edema. Also indicated for patients with more severe congestive failure for initial and continuing diuresis, particularly when other diuretics are contraindicated.
DOSAGE AND ADMINISTRATION: Given orally. Initial dosage on an interrupted schedule is one to four tablets with meals, in divided doses, on alternate days or for three consecutive days and omission for four days. In severe conditions six tablets daily on an interrupted dosage schedule.
HOW SUPPLIED: Bottles of 100 uncoated tablets of 200 mg. each.
PRODUCER: G. D. Searle & Co., Chicago, Ill.

• ACHROMYCIN® OPHTHALMIC STERILIZED

PURPOSE: Ophthalmic preparation of Achromycin for treatment of ocular infections.
COMPOSITION: Consists of 25 mg. of tetracycline HCl mixed with 25 mg. of sodium borate and 62.5 mg. of sodium chloride.
INDICATIONS FOR USE: Treatment of infections caused by gram-positive and gram-negative organisms and viruslike infections; effective in conjunction with Achromycin oral forms, in the treatment of trachoma.
HOW SUPPLIED: Vials of 25 mg. with sterilized dropper vial.
PRODUCER: Lederle Laboratories Division, American Cyanamid Co., Pearl River, N.Y.

• MITCHELL HI-INTENSITY VIEWER

DESCRIPTION: Viewer for interpreting x-ray film has a 250 watt flood lamp that can be moved horizontally and vertically behind the screen for spot scanning. Full screen may be adjusted for viewing the lightest to the darkest film. Remote-controlled voltage regulator on front panel permits easy change of intensity of light sources. Heat is kept away from the film by a fan mounted in the unit's base, and a plastic cell filled with an aqueous solution separates the rear screen from the frosted viewing screen.
PRODUCER: Mitchell Radiation Products Corp., Norristown, Pa.



• COLLO RADIOLUCENT POSITIONING BLOCKS

DESCRIPTION: Resilient, foam plastic blocks position patients during x-ray examination, and provide stable support without skidding. Blocks may be sterilized wet or dry, are nonabsorbent and noninflammable.
HOW SUPPLIED: In various shapes and sizes.
PRODUCER: Picker X-ray Corporation, White Plains, N.Y.

• UNITENSEN TABLETS

PURPOSE: Sustained control of arterial high blood pressure.
COMPOSITION: Each tablet contains 2 mg. of cryptenamine, a newly isolated alkaloid fraction of Veratrum viride.
DESCRIPTION: May be given over prolonged periods without side effects.
PRODUCER: Irwin, Neisler & Co., Decatur, Ill.

• PHENAPHEN® NO. 4

PURPOSE: Relief of pain of greater intensity, with minimal possibility of side effects.
COMPOSITION: Each capsule contains:

Acetylsalicylic acid	162 mg.
Phenacetin	194 mg.
Phenobarbital	16.2 mg. (¼ gr.)
Hyoscyamine sulfate	0.031 mg.
Codeine phosphate	64.8 mg. (1 gr.)

HOW SUPPLIED: Bottles of 100 and 500.
PRODUCER: A. H. Robins Co., Inc., Richmond, Va.

• F-CORTEF OINTMENT

PURPOSE: Relief of skin diseases, such as eczema, contact dermatitis, pruritus and atopic dermatitis.
COMPOSITION: Contains 1 or 2 mg. fluorohydrocortisone per gram (0.1 per cent or 0.2 per cent potencies).
HOW SUPPLIED: 5 gm. tubes.
PRODUCER: The Upjohn Co., Kalamazoo, Mich.

. . . no two hypertensives are alike

F. E. does best on Crystoserpine

Diagnosis: Hypertension, Grade III, fixed

F. E.: Male, white, 39. Blood pressure 210/130, pulse rate 84. Agitated, neurotic. Given Crystoserpine (crystalline reserpine) 0.5 mg. q.i.d. After 24 weeks of therapy the gradual and steady hypotensive action of Crystoserpine produced an excellent response: blood pressure dropped to 120/75, pulse rate to 64. The tranquillizing effects of Crystoserpine changed F. E.'s personality from an agitated, neurotic patient to a cheerful, calm individual who can take the pressure of his work in stride.

Crystoserpine* is a DORSEY preparation. Available as 0.25 mg. and 1.0 mg. tablets in bottles of 100, 500, and 1,000 tablets.

Smith-Dorsey • Lincoln, Nebraska • A Division of The Wander Company

*TRADE MARK

F. E. does best on Crystoserpine . . . for no two hypertensives are alike.

"an effective antirheumatic agent"*

nonhormonal anti-arthritic

BUTAZOLIDIN®

(brand of phenylbutazone)

relieves pain · improves function · resolves inflammation

The standing of BUTAZOLIDIN among today's anti-arthritics is attested by more than 250 published reports. From this combined experience it is evident that BUTAZOLIDIN has achieved recognition as a potent agent capable of producing clinical results that compare favorably with those of the hormones.

Indications: Gouty Arthritis Rheumatoid Arthritis Psoriatic Arthritis
Rheumatoid Spondylitis Painful Shoulder Syndrome

BUTAZOLIDIN® (brand of phenylbutazone) red coated tablets of 100 mg.

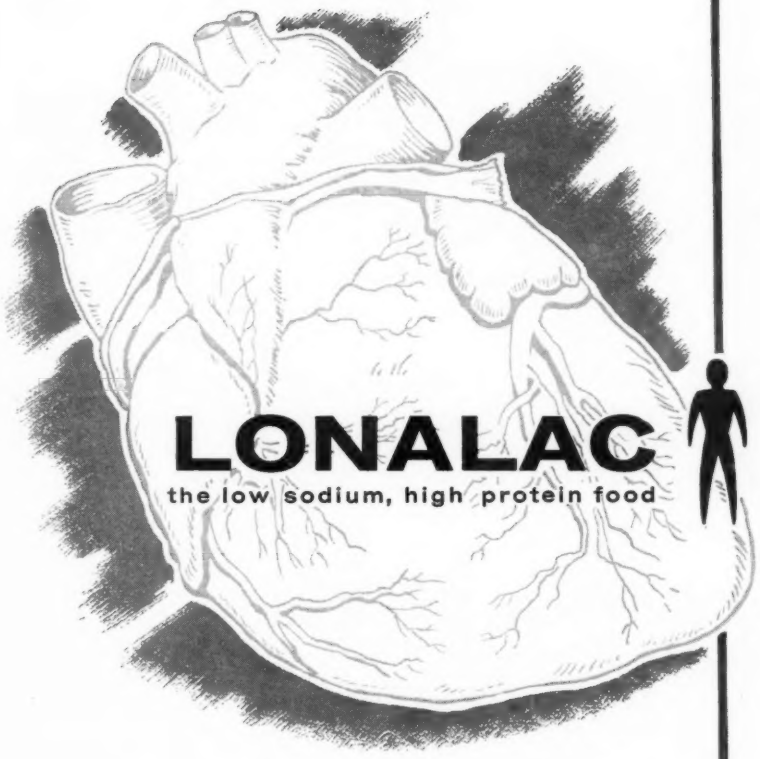
*Bunim, J. J.: Research Activities in Rheumatic Diseases, Pub. Health Rep. *69*:437, 1954.

Geigy GEIGY PHARMACEUTICALS

Division of Geigy Chemical Corporation, 220 Church Street, New York 13, N.Y.

40555

makes possible appetizing, protein-adequate, low sodium diets



as a beverage

double strength as cream

in cream soups, sauces

in desserts

in baking

Patients on low sodium diets can have the ample protein so essential to their good management—if you prescribe Lonalac.

This low sodium, high protein food is nutritionally similar to milk. And it is used just like milk . . . in soups, creamed dishes, baked dishes, desserts. Well balanced, appetizing and varied meals can be easily prepared in home or hospital.

Typical diets including Lonalac® and moderate amounts of meat and eggs keep the patient's sodium intake within 200 mg. daily . . . and supply about 80 Gm. of protein.

Diet outlines, suitable for use by dietitians and patients, are available on request.

A quart of liquid Lonalac supplies 32 Gm. of protein and only 24 mg. of sodium.

Lonalac is virtually cholesterol-free.

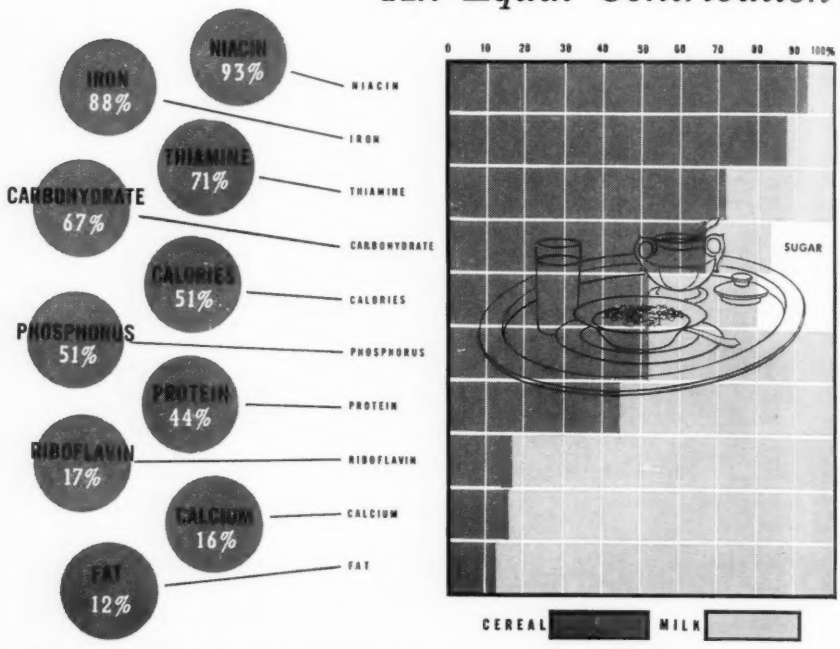
Available in 1 and 4 pound cans.

MEAD JOHNSON & COMPANY • EVANSVILLE, INDIANA, U.S.A.

MEAD

CEREAL AND MILK MAKE

An Equal Contribution



That breakfast cereals make a significant contribution to the overall nutrient content of the cereal and milk serving consisting of 1 oz. of breakfast cereal, 4 oz. of milk, and 1 teaspoonful of sugar, is readily apparent from the bar chart. In the case of five of the nine nutrients common to both, as well as in calories, the breakfast cereal alone provides more than 50 per cent of the total amounts contributed by both cereal and milk, and almost 50 per cent of the protein.*

The values shown demonstrate that breakfast cereals are significant sources of many essential nutrients. Their inclusion in the balanced breakfast goes far in satisfying the daily requirements of the nutrients they contribute. For this reason they are widely recommended by nutritionists as an important component of a basic cereal breakfast consisting of fruit, cereal, milk, bread and butter.

As a service to teachers and their students and as a result of twelve years of research, Cereal Institute offers free authoritative and coordinated cereal and milk and breakfast teaching materials. Write for yours today!

***These figures are based on composite averages of all breakfast cereals —whole grain, enriched, or restored to whole grain values of thiamine, niacin and iron.**

Cereal and Milk Festival No. 2

The program of long range cooperation between the American Dairy Association and the Cereal Institute announced over a year ago goes into its second year with the endorsement and support of both industries.

In 1955 the event is known as

"Spring Cereal and Milk Festival"

and will be launched the middle of April. In the average year 2½ *Billion Quarts of Milk* are eaten with breakfast cereals.

You never outgrow your need for Cereal and Milk.

CEREAL INSTITUTE, Inc., 135 South La Salle Street, Chicago 3, Illinois

A research and educational endeavor devoted to the betterment of national nutrition

EXPASMUS

for relief of muscle spasm and pain in arthritic and rheumatic conditions

EXPASMUS

for relief of tension associated with muscle spasm

EXPASMUS

for relief of low back pain

modern . . .

comprehensive . . .

. . . single prescription therapy

EXPASMUS*

combines two relaxants — mephenesin for skeletal muscle spasm and dibenzyl succinate for associated smooth muscle spasm — with the analgesic potency of salicylamide. Expasmus provides safe, effective therapy without the disadvantages of belladonna, the barbiturates or amphetamine.

Composition and dosage: Each tablet contains dibenzyl succinate, 125 mg.; mephenesin, 250 mg.; salicylamide 100 mg. In bottles of 100.

Average dose, two tablets every four hours; maximum daily dose 12 tablets.

ON YOUR PRESCRIPTION ONLY · SAMPLES ON REQUEST

MARTIN H. SMITH CO.
150 Lafayette St., New York 13, N. Y.

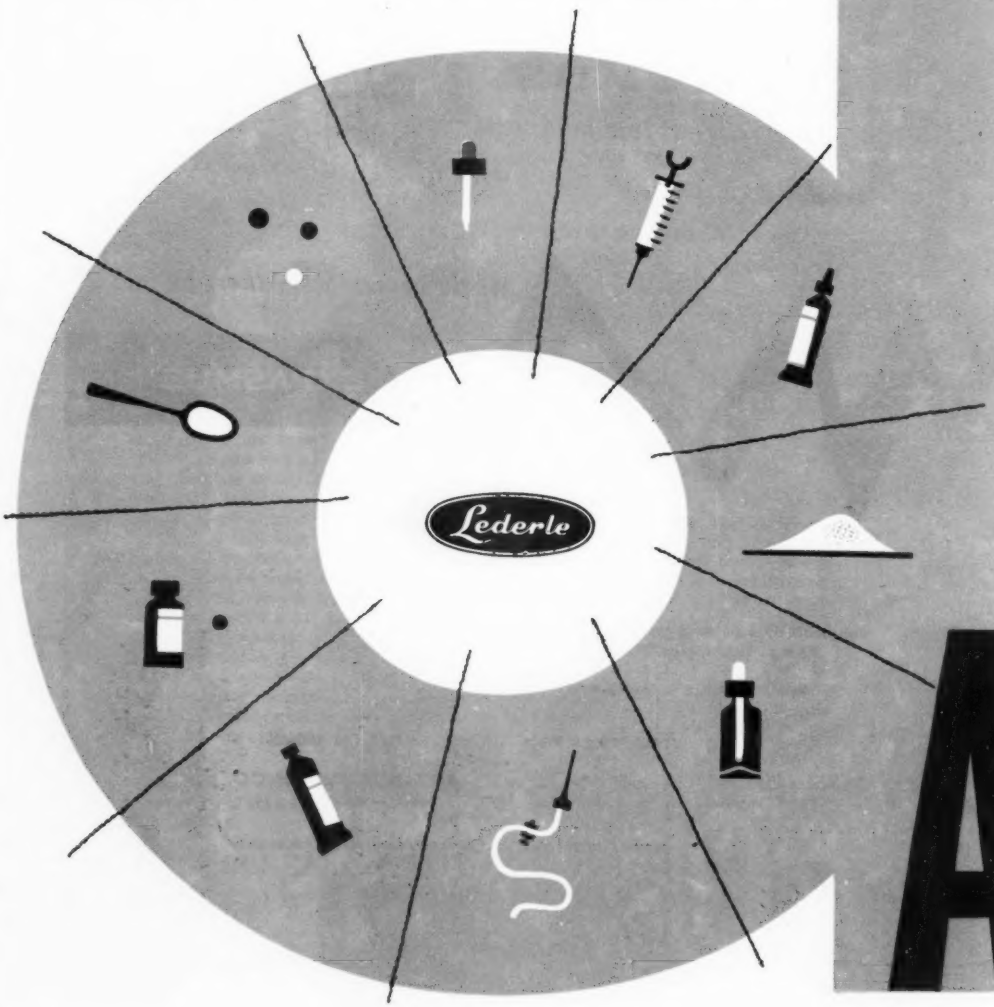
*Trademark

Manufacturers of ethical products for over half a century

ACHROMYCIN CAPSULES

The most widely prescribed form
of this widely prescribed antibiotic.
ACHROMYCIN Capsules are available in potencies
of 50 mg., 100 mg., and 250 mg.

for every need—a suitable dosage form



ACH

EG. U.S. PAT. OFF.

Other Dosage Forms:

TABLETS: 50, 100, and 250 mg.

PEDIATRIC DROPS (Cherry Flavor): 100 mg. per cc. (approx. 5 mg. per drop), 10 cc. bottle

ORAL SUSPENSION (Cherry Flavor): 250 mg. per teaspoonful (5 cc.), 1 oz. bottle

SPERSOIDS* Dispersible Powder (Chocolate Flavor): 50 mg. per rounded teaspoonful (3 Gm.), 12 and 25 dose bottle

SOLUBLE TABLETS: 50 mg.

INTRAVENOUS: vials of 100, 250, and 500 mg.

INTRAMUSCULAR: vial of 100 mg.

OINTMENT (3%): ½ and 1 oz. tubes

OPHTHALMIC OINTMENT (1%): ⅛ oz. tube

OPHTHALMIC SOLUTION: vial of 25 mg. with sterilized dropper vial

EAR SOLUTION (0.5%): 10 cc. dropper bottle

SYRUP (Cherry Flavor): 125 mg. per teaspoonful (5 cc.), 2 oz. bottle

In any of its numerous dosage forms, ACHROMYCIN is a potent weapon to combat a variety of infections. This true broad-spectrum antibiotic has proved effective in controlling Gram-negative and Gram-positive bacteria, rickettsia, spirochetes, and certain viruses and protozoa.

And ACHROMYCIN is unusually kind to the patient! Extensive use, in children and adults, has shown it to be practically free of untoward side reactions. ACHROMYCIN diffuses rapidly in body tissues and fluids, is readily soluble, and remains stable for 24 hours in solution.

When a broad-spectrum antibiotic is indicated, remember — for your convenience, for the patient's comfort, there's a particular dosage form of ACHROMYCIN to fill the need!

LEDERLE LABORATORIES DIVISION *AMERICAN Cyanamid COMPANY* PEARL RIVER, NEW YORK

Now available as Syrup—ready-mixed!

CHROMYCIN

TETRACYCLINE LEDERLE

the
new
antiarthritic
with
multiple
advantages

Salicylates and cortisone have complementary action when combined . . .

Smaller doses of each are sufficient to produce a therapeutic response equivalent to massive cortisone therapy. With smaller doses, side effects are absent, thus permitting SALCORT therapy over a prolonged period. THERE ARE NO WITHDRAWAL PROBLEMS WITH SALCORT.

Salcort provides safe, dependable relief in arthritic affections. Early functional improvement and a sense of well being are significant in a large percentage of patients.

Each tablet contains:

Cortisone Acetate	2.5 mg.
Sodium Salicylate	0.3 Gm.
Aluminum Hydroxide Gel, dried	0.12 Gm.
Calcium Ascorbate (equivalent to 50 mg. ascorbic acid)	60 mg.
Calcium Carbonate	60 mg.

professional literature and sample available on request

THE S. E. MASSENGILL COMPANY
BRISTOL, TENNESSEE

SALCORT

this formidable formicivore has no fear of acid indigestion

Although toothless and dependent on armor for defense, the giant pangolin (**Manis gigantea**) of Equatorial Africa is capable of fearsome damage with his extremely long and powerful claws. Besides eating soft-bodied termites, the pangolin feeds imperturbably on formic acid-secreting ants.

Homo sapiens, even without ants in his diet, is much more susceptible to gastric hyperacidity. For the distress of heartburn, dyspepsia, peptic ulcer, TITRALAC is a logical prescription. It gives relief in minutes that continues for hours. This was shown by *in vitro* tests on 16 commonly used antacids. In this study, TITRALAC

"... brought the pH up the most rapidly and to the highest level of all the preparations which were investigated. The sustaining power was stronger, in addition."

Hammarlund, E. R., and Rising, L. W.: J. Am. Pharm. A. (Scient. Ed.) *41*:286, 1952.

TITRALAC®

unique antacid—with milk-like action*

*TITRALAC is Schenley's preparation of Glycine + calcium carbonate; U. S. Patent No. 2,429,596

Schenlabs

SCHENLEY LABORATORIES, INC • NEW YORK 1, NEW YORK

15934

when hormones

are preferred therapy...

SCHERING HORMONES

assure superior quality

Schering's high standards and quality control assure products of unchanging potency and purity for uniform action and clinical efficacy.

minimal cost

Manufacturing know-how and continuing research by Schering provide preparations of highest quality at minimum cost.

a form for every need

ORETON®
oral, buccal,
injection, pellets

specific androgen therapy
in the male climacteric
anabolic benefits in aging
functional uterine bleeding

GYNETONE®
REPETABS®, injection

combined estrogen-androgen
for real relief in the menopause

ESTINYL®
tablets

estrogen
for the female climacteric

PROGYNON®
oral, buccal,
injection, pellets

estrogen
for the female climacteric

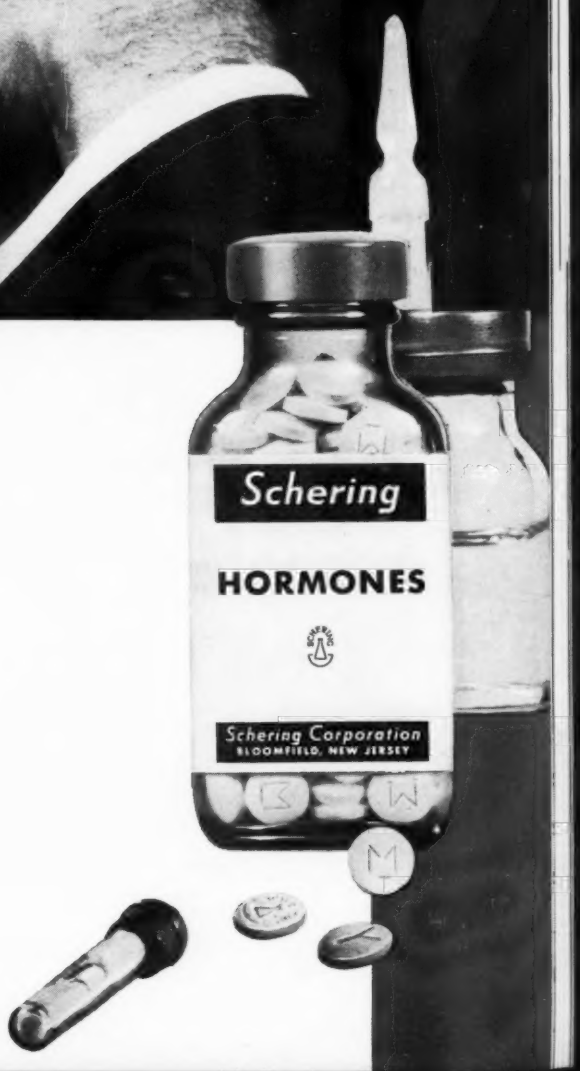
PRANONE®
tablets

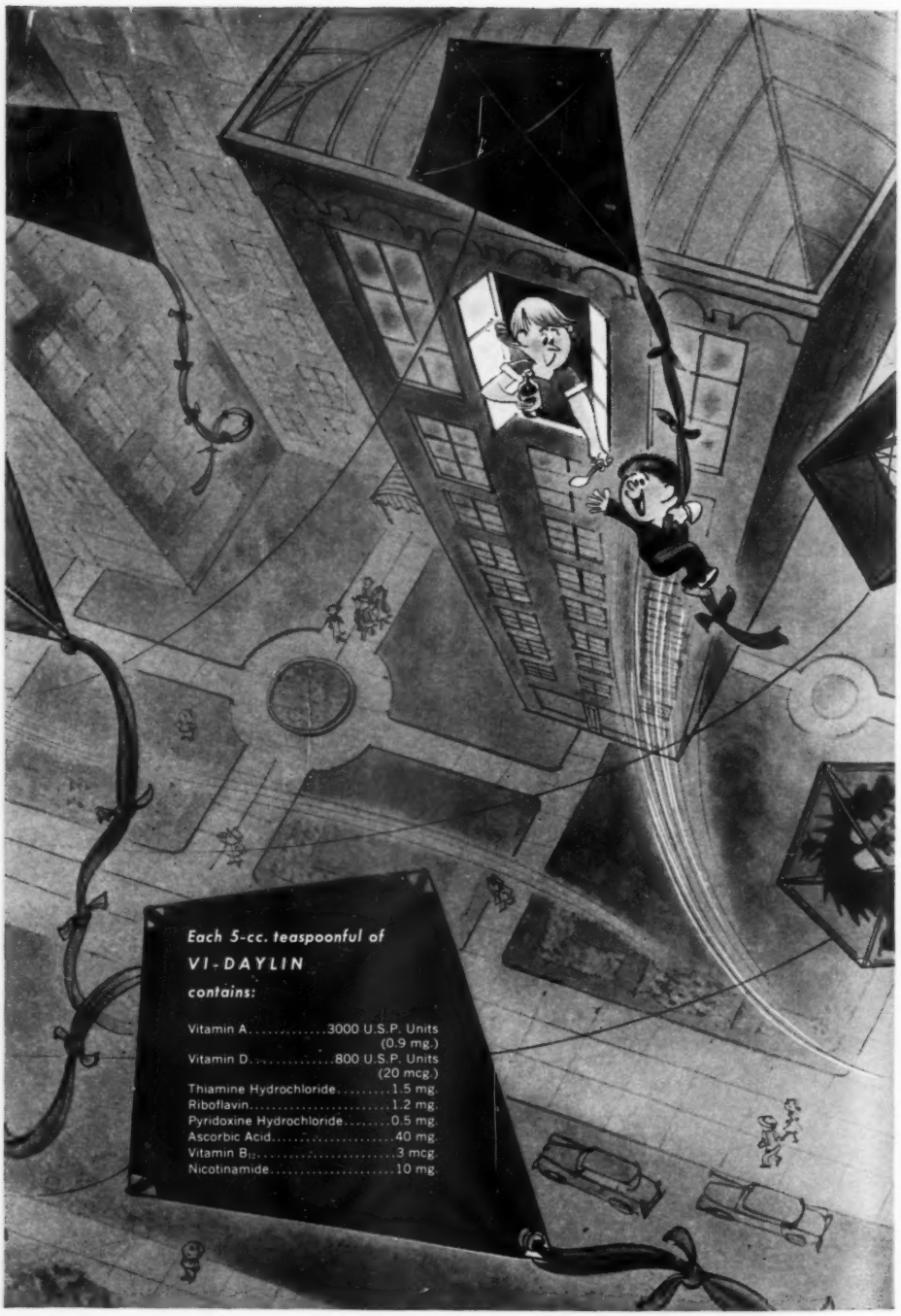
progestin
for habitual abortion
dysmenorrhea
menstrual disorders

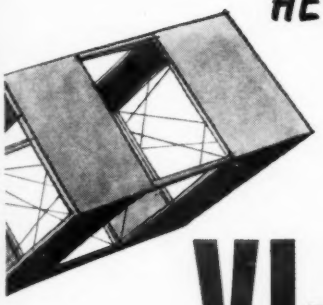
PROLUTON®
buccal, injection

CORTATE®
injection,
buccal, pellets

desoxycorticosterone acetate
for adrenal insufficiency




Each 5-cc. teaspoonful of
VI-DAYLIN
contains:
Vitamin A.....3000 U.S.P. Units (0.9 mg.)
Vitamin D.....800 U.S.P. Units (20 mcg.)
Thiamine Hydrochloride.....1.5 mg.
Riboflavin.....1.2 mg.
Pyridoxine Hydrochloride.....0.5 mg.
Ascorbic Acid.....40 mg.
Vitamin B_{12}.....3 mcg.
Nicotinamide.....10 mg.



HE'S HEARD THE CALL FOR

VI-DAYLIN®

(Homogenized Mixture of Vitamins A, D, B_1, B_2, B_6, B_{12}, C and Nicotinamide, Abbott)

Solo flight? No, sir! *All* youngsters rise to the occasion when it's VI-DAYLIN time!

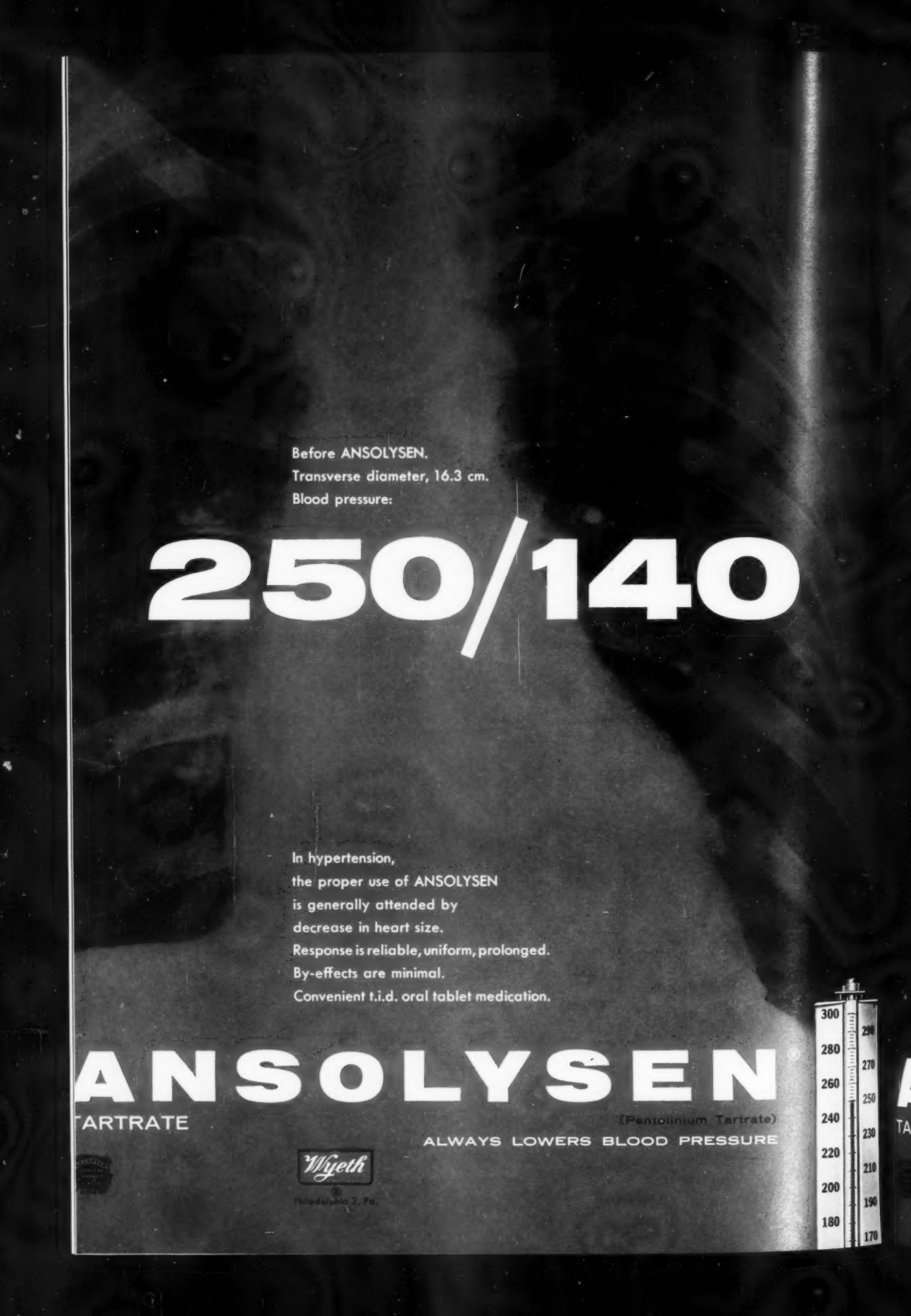
Each teaspoonful of VI-DAYLIN's golden-honey color . . . citrus aroma . . . and delicious lemon-candy flavor hides *eight* essential vitamins (including 3 mcg. of body-building B_{12}).

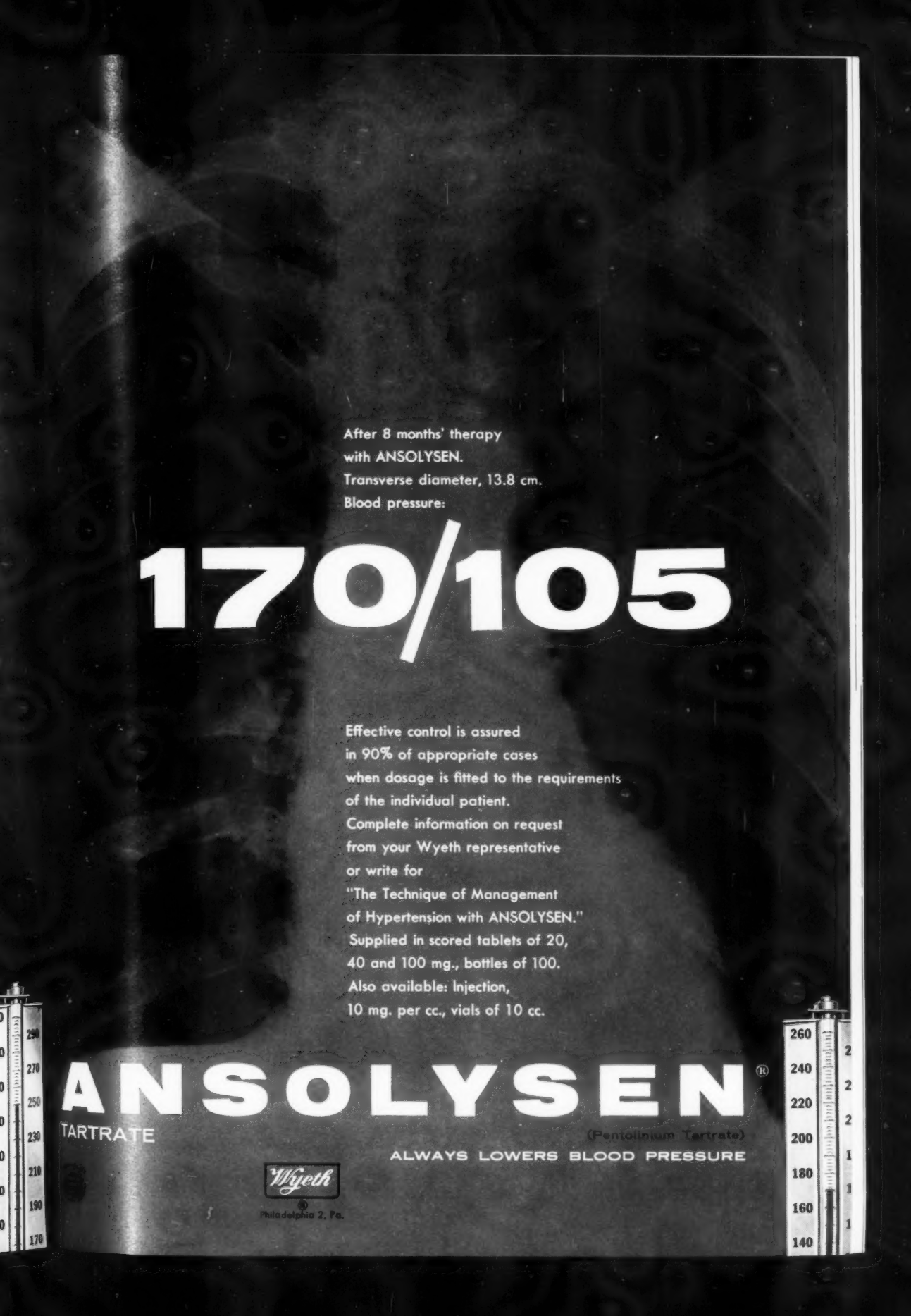
Mothers, too, get a lift from VI-DAYLIN. It needs no special refrigeration or pre-mixing. Just an easy-to-pour spoonful once a day.

Prescribe or recommend VI-DAYLIN for all your young patients. At all pharmacies in bottles of 90 cc., 8 fluidounces and one pint.

503093

and now for infants . . . VI-DAYLIN Drops


Before ANSOLYSEN.
Transverse diameter, 16.3 cm.
Blood pressure:
250/140
In hypertension,
the proper use of ANSOLYSEN
is generally attended by
decrease in heart size.
Response is reliable, uniform, prolonged.
By-effects are minimal.
Convenient t.i.d. oral tablet medication.
ANSOLYSEN®
TARTRATE
(Pentolinium Tartrate)
ALWAYS LOWERS BLOOD PRESSURE
Wyeth
Philadelphia 2, Pa.
300
280
260
240
220
200
180
290
270
250
230
210
190
170


After 8 months' therapy
with ANSOLYSEN.
Transverse diameter, 13.8 cm.
Blood pressure:
170/105
Effective control is assured
in 90% of appropriate cases
when dosage is fitted to the requirements
of the individual patient.
Complete information on request
from your Wyeth representative
or write for
"The Technique of Management
of Hypertension with ANSOLYSEN."
Supplied in scored tablets of 20,
40 and 100 mg., bottles of 100.
Also available: Injection,
10 mg. per cc., vials of 10 cc.
ANSOLYSEN®
TARTRATE
(Pentolinium Tartrate)
ALWAYS LOWERS BLOOD PRESSURE
Wyeth
Philadelphia 2, Pa.

Vitamins at a truly therapeutic level for all stress conditions

Theron
(STUART)

Tablets:	Liquid:
30's and 100's	4 oz. bottles
Dose:	Dose:
1 tablet daily	1 teaspoonful daily

WHEAT GERM
IN THERAPEUTIC DIETS

FOR PROTEIN
The problem of providing adequate protein in sodium-restricted diets can be aided by including Wheat Germ. One ounce (4 tbsp.) of Kretschmer Wheat Germ provides 9.35 Gm. of high quality protein—1.1 mg. sodium.

FOR THIAMINE
Wheat Germ is one of the few thiamine-rich foods that can be easily incorporated in daily diets. One ounce supplies .49 mg. of thiamine plus appreciable amounts of all the other B-vitamins.

FOR PALATABILITY
Kretschmer Wheat Germ* is toasted, appetizing — ready to eat as cereal, also used as a flavorful ingredient. Recipes on every label.

TYPICAL COMPOSITION

	Percent
Protein	33
Fat	11.5
Carbohydrate	45.5
Fiber	1.7
Moisture	3.3
Ash	5
Calories 440 per 100 Gm.	
	Mg. per 100 Gm.
Phosphorous	973
Iron	7.8
Sodium	3.9
Thiamine	1.73
Riboflavin	.53
Niacin	3.5
Pantothenic Acid	1.12
Folic Acid	.457
Pyridoxine	1.19
Choline	401
Inositol	707
Biotin	.01
Vitamin E	40.4

ACCEPTED COUNCIL ON FOODS AND NUTRITION AMERICAN MEDICAL ASSOCIATION

*Vacuum packed

KRETSCHMER CORPORATION
CARROLLTON, MICHIGAN

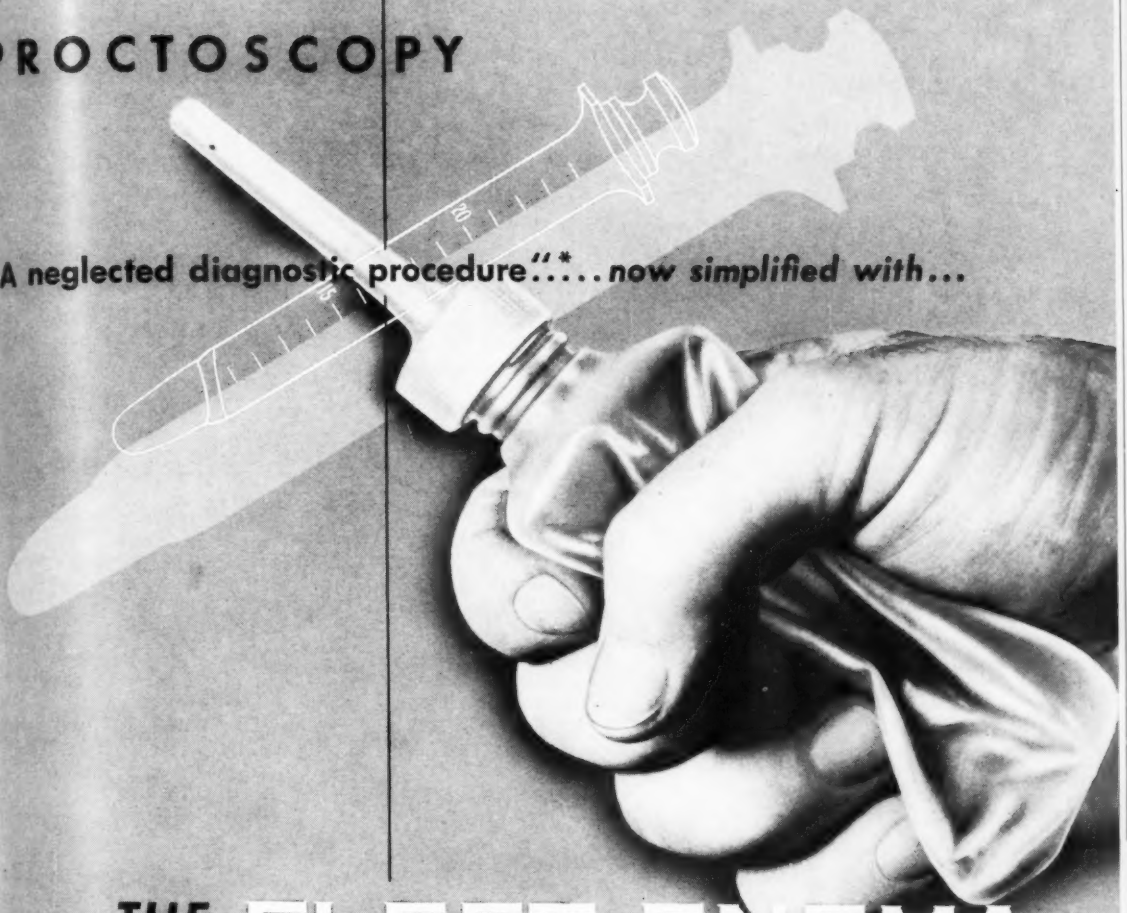
ACTIVE INGREDIENTS: BORIC ACID 2.0% OXYQUINOLIN BENZOATE 0.02% AND PHENYLMERCURIC ACETATE 0.02% IN SUITABLE JELLY OR CREAM BASES. AVERAGE PH 4.5

HOLLAND-RANTOS COMPANY, INC. • 145 HUDSON STREET, NEW YORK 13, N.Y.

SEND FOR THIS UNUSUAL FREE BOOKLET • "THE PHYSICIAN'S GUIDE METHOD OF CONTRACEPTION"

PROCTOSCOPY

"A neglected diagnostic procedure"*... now simplified with...



THE FLEET ENEMA DISPOSABLE UNIT

"Probably no other office procedure except blood pressure determination in the adult gives as high a percentage of positive diagnostic information."
— Jl. La. St. Med. Soc., 106:356, Sept. '54.

It is now a simple matter to prepare patients for proctoscopic or sigmoidoscopic examination during an office visit. The Fleet Enema *Disposable* Unit is superior in cleansing effect to a tap water or saline enema of one or two pints and less irritating than a soap suds enema. Thorough left colon catharsis, with minimal discomfort to the patient, is usually a matter of only four or five minutes.

Each 4½ fl. oz. disposable "squeeze bottle" contains, per 100 cc., 16 gm. sodium biphosphate and 6 gm. sodium phosphate . . . an enema solution of Phospho-Soda (Fleet) . . . gentle, prompt, thorough.

ACCEPTED FOR ADVERTISING IN PUBLICATIONS OF THE AMERICAN MEDICAL ASSOCIATION

"Phospho-Soda", "Fleet" and "Fleet Enema" are registered trade-marks of C. B. Fleet Co., Inc.

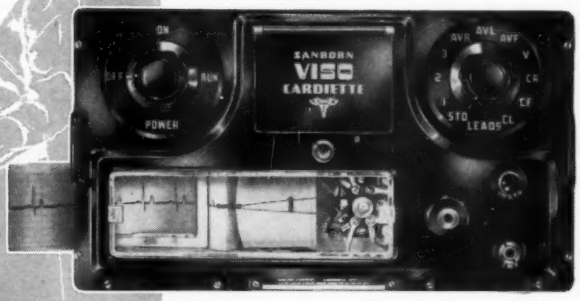
C. B. FLEET CO., INC. • LYNCHBURG, VA.

Do you know that *these and other Revlon products have been accepted by The Committee on Cosmetics of The American Medical Association... and that Revlon products are used professionally by more than 90% of the beauty salons of America?*

Revlon
Products Corp., 745 Fifth Avenue, New York, N.Y.

IT'S AS EASY AS IT LOOKS...

NOTE the bare simplicity of the Viso-Cardiette operating panel below. Only two major controls are needed for routine testing — a power switch and a leads selector knob.



Because of the Viso's STABILITY, all adjustments — for sensitivity, baseline positioning, and stylus temperature — remain *faithfully set,* and their controls are so rarely needed that Viso designers placed them out of the way, yet readily accessible, under cover in the center of the operating panel above.

No special skill, knowledge, or talent is required to become an expert in the use of a Viso. The Viso works *with* the operator and practically does the whole job itself of turning out accurate, permanent cardiograms.

Viso-Cardiette operators everywhere praise the speedy, precise performance of this instrument, and particularly enjoy the extreme simplicity of its operation.

Write for
descriptive literature and details of the
Viso-Cardiette 15-day no-obligation trial plan.

SANBORN COMPANY
195 Massachusetts Avenue
Cambridge 39, Massachusetts

The inherent operating simplicity of Sanborn instruments is also found in the Sanborn Metabulator, a modern metabolism tester.

Management of milk allergy reduced to its simplest terms...

REPLACE THE MILK WITH MULL-SOY®

pioneer hypoallergenic alternative to cow's milk... fits any formula in which cow's milk has been used

Soy alternative to evaporated milk

MULL-SOY Liquid

in 15½-fl.oz. tins. Start with a 1:3 dilution with water, strengthen gradually to 1:1. Add carbohydrate of choice as required.

ACCEPTED COUNCIL ON FOODS AND NUTRITION AMERICAN MEDICAL ASSOCIATION

Soy alternative to dried whole milk

MULL-SOY Powdered

in 1-lb. tins. Start with 1 level tablespoonful to 4 fl.oz. water, strengthen gradually to 1 tbsp. to 2 fl.oz. water. Add carbohydrate of choice as required.

Write for folder

"SIMPLIFIED FEEDING SCHEDULES FOR MILK-ALLERGIC BABIES" and attractive recipe booklets.

Borden's PRESCRIPTION PRODUCTS DIVISION
350 Madison Avenue, New York 17

When feet feel like ice—

...when patients complain of cold feet because peripheral circulation is impaired, Roniacol® 'Roche'--an effective, well-tolerated vasodilator--provides:

→ 1. prolonged vasodilation

→ 2. appealing form (elixir or tablets)

→ 3. relative freedom from side reactions

Speaking of vasodilators —

WHICH DO YOU PRESCRIBE?

No matter which one you have been using, we believe you'll agree that most of them are reasonably good.

Still, we suggest you try Roniacol® 'Roche' ... because it's so well tolerated that patients can take it for months ... because it often provides prolonged relief ... because it's available in an elixir and in tablets.

At the first signs of sinusitis

Tyzine

brand of tetrahydrozoline hydrochloride

When ostia become blocked during a sinus attack, the pain and headache that follow are characteristic and predictable.

When ***Tyzine*** is used as a nasal spray or solution, the gratifying nasal decongestion that follows is likewise characteristic and predictable. Patency is attained almost immediately. ***Tyzine*** is odorless, tasteless, neither stings nor burns; and appears to be free from rebound congestion.

In a series of 203 patients, *Tyzine* was found "equal or superior to the most potent agents in current use."[1] Twenty-two of these patients had acute or chronic sinusitis. Excellent relief was obtained in 20 patients and fair response in 2—and there were no adverse local or systemic reactions.

1. Menger, H. C.: New York State J. Med., in press.

supplied: As 0.1% aqueous solution—as Nasal Spray in plastic spray bottles containing ½ ounce of TYZINE, and Nasal Solution in bottles of 1 ounce.

PFIZER LABORATORIES
Division, Chas. Pfizer & Co., Inc.
Brooklyn 6, New York

(Advertisement)

This bibliography has been selected from over 1500 references

THORAZINE†

This selected bibliography illustrates the diverse and widespread use of 'Thorazine' in the United States and throughout the world. Since 1951, world-wide interest in 'Thorazine' has developed to the point where published reports are now appearing at the rate of approximately 10 a week.

Nausea, Vomiting and Hiccups

1. Romagny, G., and Frédérich: Report on the Antiemetic Action of R.P. 4560 in the Infant*, Lyon méd. *189*:91 (Aug. 9) 1953.
2. Friend, D.G., and Cummins, J.F.: New Antiemetic Drug—Preliminary Report, J.A.M.A. *153*:480 (Oct. 3) 1953.
3. Boyd, E.M.; Boyd, C.E., and Cassell, W.A.: The Antiemetic Action of Chlorpromazine Hydrochloride, Canad. M. A. J. *70*:276 (Mar.) 1954.
4. Caussade, L., et al.: The Action of Chlorpromazine in Medicine of Children*, Rev. med. Nancy, Feb. 1954.
5. Friend, D.G., and Cummins, J.F.: Use of Chlorpromazine in the Treatment of Nausea and Vomiting of Uremia, New England J. Med. *250*:997 (June 10) 1954.
6. Marks, J.H.: Use of Chlorpromazine in Radiation Sickness and Nausea from Other Causes, New England J. Med. *250*:999 (June 10) 1954.
7. Benaron, H.B.W.; Dorr, E.M.; Lamb, V.E.; Karp, M.; Roddick, J.W.; Gossack, L.; Johnson, R.P., and Tucker, B.E.: Chlorpromazine in the Treatment of Nausea and Vomiting of Pregnancy and Delivery, Scientific Exhibit, 103rd Annual Meeting of the A.M.A., San Francisco (June) 1954.
8. Moyer, J.H., et al.: Clinical Studies of an Anti-emetic Agent, Chlorpromazine, Am. J. M. Sc. *228*:174 (Aug.) 1954.
9. Albert, S.N., and Coakley, C.S.: The Use of Chlorpromazine to Control Post-Anesthetic Vomiting, Anesth. & Analg. *33*:285 (July-Aug.) 1954.
10. Isaacs, B., and Macarthur, J.G.: The Effect of Chlorpromazine on Vomiting Due to Veriloid, Glasgow M. J. *35*:161 (July) 1954.
11. Stewart, B.L., and Redeker, A.G.: Emesis and Hiccough—Treatment with Chlorpromazine, California Med. *81*:203 (Sept.) 1954.
12. Whitelaw, M.J.: Prevention by Chlorpromazine of the Nausea Caused by Estrogens and Estrogen-like Compounds, J. Clin. Endocrinol. & Metab. *14*:795 (July) 1954.
13. Isaacs, B., and Macarthur, J.G.: Influence of Chlorpromazine and Promethazine on Vomiting Induced with Apomorphine in Man, Lancet *2*:570 (Sept. 18) 1954.
14. Homburger, F., and Smithy, G.: Chlorpromazine in Patients with Nausea and Vomiting Due to Advanced Cancer, New England J. Med. *251*:820 (Nov. 11) 1954.
15. Becker, B.: Chlorpromazine—A New Anti-Emetic Agent, Am. J. Ophth. *38*:576 (Oct.) 1954.

Mental and Emotional Disturbances

16. Delay, J., and Deniker, P.: 38 Cases of Psychoses under Prolonged and Continuous R.P. 4560 Treatment*, Compt. rend. du Congres des Medecins Alienistes et Neurologistes, Luxembourg, July 21-27, 1952, pp. 7-18.
17. Escalar, G., and Balduzzi, E.: First Results Obtained with Ganglioplegics in Psychiatric Therapy*, Boll. Soc. med.-chir., Prov. Varese *8*:1, 1953.
18. Rigotti, S.: Latest Experiences with Largactil in Psychiatry*, Gior. di psichiat. e di neuropat. *81*:211, 1953.
19. Touraine, Y.: Effect of R.P. 4560 on Deliriums with Agitation in Cranial Traumatisms*, Presse méd. *61*:470 (March 28) 1953.
20. David, M.; Benda, P., and Klein, F.: The Treatment of Status Epilepticus by Chlorpromazine*, Bull. mem. Soc. med. Hôp. de Paris *69*:691 (June) 1953.
21. Staehelin, J.E., and Kielholz, P.: Largactil, A New Sympathetic Depressant in Mental Disturbances*, Schweiz. med. Wchnschr. *83*:581 (June 20) 1953.
22. Massari, M.: Anxiety and Autonomic Blockage*, Minerva med. *44*:231, 1953.
23. Arnold, O.H.; St. Hift, and Solms, W.: Largactil in Psychiatry*, Wien. med. Wchnschr. *103*:563 (Aug. 1) 1953.
24. Delay, J., and Deniker, P.: Neuroplegics in Psychiatric Therapy*, Therapie *8*:347, 1953.
25. Kolle, K., and Mikorey, M.: Artificial Hibernation in Psychiatry*, Deutsche med. Wchnschr. *78*:1723 (Dec. 11) 1953.
26. Sigwald, J., and Bouttier, D.: 3-Chloro-10-(3'-dimethylaminopropyl)-phenothiazine Hydrochloride in Current Neuro-psychiatry*, Ann. méd. Paris *54*:150, 1953.
27. Lehmann, H.E., and Hanrahan, G.E.: Chlorpromazine—New Inhibiting Agent for Psychomotor Excitement and Manic States, Arch. Neurol. & Psychiat. *71*:227 (Feb.) 1954.
28. Winkelman, N.W., Jr.: Chlorpromazine in the Treatment of Neuropsychiatric Disorders, J.A.M.A. *155*:18 (May 1) 1954.
29. Lang, F.: A Case of Stammering Cured by Chlorpromazine in a 15 Year Old, Mentally Deficient Boy*, Ann. med.-psychol. *112*:733 (May) 1954.
30. Lehmann, H.E.: Selective Inhibition of Affective Drive by Pharmacological Means, Am. J. Psychiat. *110*:856 (May) 1954.

(Advertisement)

THORAZINE† BIBLIOGRAPHY (continued)

31. Garmany, G.; May, A.R., and Folkson, A.: The Use and Action of Chlorpromazine in Psychoneuroses, Brit. M. J. *2*:439 (Aug. 21) 1954.
32. Lancaster, N.P., and Jones, D.H.: Chlorpromazine and Insulin in Psychiatry, Brit. M. J. *2*:565 (Sept. 4) 1954.
33. Elkes, J., and Elkes, C.: Effect of Chlorpromazine on the Behavior of Chronically Overactive Psychotic Patients, Brit. M. J. *2*:560 (Sept. 4) 1954.
34. Kinross-Wright, V.: Chlorpromazine—A Major Advance in Psychiatric Treatment, Postgrad. Med. *16*:297 (Oct.) 1954.
35. Tatlow, W.F.T.; Fisher, C.M., and Dobkin, A.B.: The Clinical Effects of Chlorpromazine on Dyskinesia, Canad. M.A.J. *71*:380 (Oct.) 1954.
36. Bower, W.H.: Chlorpromazine in Psychiatric Illness, New England J. Med. *251*:689 (Oct. 21) 1954.
37. Leon, C.A.: The Use of 'Thorazine' as an Adjunct in the Treatment of Schizophrenia, Bull. Tulane M. Fac. *14*:17 (Nov.) 1954.

Intractable Pain

38. Cahn, J.; Dubrasquet, M., and Melon, J.M.: The Effect of Potentialized Anesthesia and Hibernation on Experimentally Produced Myocardial Infarction*, Anesth. et analg. *10*:89 (Feb.) 1953.
39. Lucas, J., et al.: Thorazine as an Aid in Management of Cancer Patients, Proc. Am. A. Cancer Research *1*:30 (April) 1954.
40. Sadove, M.S., et al.: Chlorpromazine and Narcotics in the Management of Pain of Malignant Lesions, J.A.M.A. *155*:626 (June 12) 1954.

Alcoholism

41. Sanguineti, I., and Laricchia, R.: Six Cases of Delirium Tremens Resolved by a Method of "Neuroautonomic Blockage" Derived from Techniques of Artificial Hibernation*, Minerva med. *44*:1469 (Nov. 17) 1953.
42. Kammerer, T., and Ebtinger, R.: R.P. 4560 (Largactil) in the Treatment of Delirium Tremens*, Ann. méd.-psychol. *112*:102 (Jan.) 1954.
43. Albert, S.N.; Rea, E.L.; Duverney, C.A.; Shea, J., and Fazekas, J.F.: The Use of Chlorpromazine in the Treatment of Acute Alcoholism, Med. Ann. District of Columbia *23*:245 (May) 1954.
44. Cummins, J.F., and Friend, D.G.: Use of Chlorpromazine in Chronic Alcoholics, Am. J. M. Sc. *227*:561 (May) 1954.

Surgery and Obstetrics

45. Laborit, H.: Ganglioplegics in Obstetrical Pathology*, Presse méd. *60*:140 (Feb. 2) 1952.
46. Sénèque, J.; Roux, M., and Huguenard, P.: Reflections on 47 Cases of Anesthesia with Controlled Hypotension*, Mem. Acad. de chir. *78*:333 (Mar. 19) 1952.
47. Forster, S.; Forster, E., et al.: Potentialized Anesthesia in Thoracic Surgery*, Anesth. et analg. *9*:250 (June) 1952.
48. Peruzzo, L.: R.P. 4560, a Potentiator of Anesthesia*, Gior. ital. anest. *18*:404 (July-Aug.) 1952.
49. Heitz, J., and Regent, M.: Potentialized Anesthesia*, Lyon chir. *47*:875 (Oct.) 1952.
50. Laborit, H., and Jaulmes, C.: From Potentiated Anesthesia to Artificial Hibernation*, Toulouse med. *10*:821 (Nov.) 1952.
51. Jentzer, A.: Hibernation, Potentiated Anesthesia, Post-Operative Shock Excluding Controlled Hypotension*, Schweiz. med. Wchnschr. *82*:1215 (Nov. 22) 1952.
52. Lazorthes, G., and Campan, L.: Hibernotherapy and Neurosurgery—Reflections on 72 Cases*, Mem. Acad. de chir. *79*:388 (May 13) 1953.
53. Smith, A., and Fairer, J.G.: Hibernation Anesthesia in Major Surgery—A Report of 36 Cases, Brit. M. J. *2*:1247 (Dec. 5) 1953.
54. Dundee, J.W., et al.: Hypothermia with Autonomic Block in Man, Brit. M. J. *2*:1237 (Dec. 5) 1953.
55. Déchêne, J.-P.: Largactil (R.P. 4560) in Pulmonary Surgery*, Lavel méd. *19*:207 (Feb.) 1954.
56. Dobkin, A.B.; Gilbert, R.G.B., and Lamoureux, L.: Physiological Effects of Chlorpromazine, Anaesthesia *9*:157 (July) 1954.
57. Hershenson, B.B.; Isaac, S.J., et al.: A New Sedative (Antipsychomotor) Drug Useful in Labor—Preliminary Report, New England J. Med. *251*:216 (Aug. 5) 1954.
58. Rizzi, R.: R.P. 4560 (Largactil) as a Narcotic Potentiator*, Der Anaesthesist *3*:58 (Feb.) 1954.
59. Martin, E.M., et al.: A Preliminary Clinical Report on Largactil (Chlorpromazine), Bull. Acad. Med., Toronto *27*:175 (June) 1954.
60. Bierent, M.P.: Chlorpromazine in Ophthalmology*, Presse méd. *62*:1217 (Sept. 11) 1954.
61. Golden, A.A.: Nitrous Oxide-Oxygen Potentiation—A Clinical Study, J. Am. Osteopathic A. *54*:102 (Oct.) 1954.

Miscellaneous

62. Moyer, J.H., et al.: Laboratory and Clinical Observations on Chlorpromazine (SKF-2601-A)—Hemodynamic and Toxicological Studies, Am. J. M. Sc. *227*:283 (Mar.) 1954.
63. Chaptal, J., et al.: Effect of Chlorpromazine (Largactil) on the Chorea Syndrome in Children*, Presse méd. *62*:769 (May 19) 1954.
64. Robinson, K.C., and Zuck, D.: (Letter to Editor), Chlorpromazine in Status Asthmaticus, Lancet *2*:1349 (June 26) 1954.
65. Dobkin, A.B.; Lamoureux, L., and Gilbert, R.G.B.: Conservative Therapy of Peripheral Vascular Disease and the Use of Largactil (R.P. 4560, M & B 2378 and 2601A S.K.F.), Treat. Serv. Bull. *9*:324 (June) 1954.
66. Chesney, W.M.: Chlorpromazine and Jaundice, Brit. M. J. *2*:591 (Sept. 4) 1954.
67. Foster, C.A.; O'Mullane, E.J., et al.: Chlorpromazine—a Study of Its Action on the Circulation in Man, Lancet *2*:614 (Sept. 25) 1954.
68. Geiger, H., and Finkelstein, B.A.: Largactil in the Treatment of Tuberculosis*, Schweiz. med. Wchnschr. *84*:1063 (Sept. 11) 1954.
69. Rea, E.L.; Shea, J., and Fazekas, J.F.: Hypotensive Action of Chlorpromazine, J.A.M.A. *156*:1249 (Nov. 27) 1954.

Chlorpromazine is known as 'Largactil' in Canada, England, France and Italy; as 'Megaphen' in Germany; as 'Ampliactil' in Argentina; as 'Amplictil' in Brazil; and as 'Hibernal' in Sweden.

*Translation

†Trademark for S.K.F.'s brand of chlorpromazine.

Smith, Kline & French Laboratories
Philadelphia 1

The Medical Muse

RICHARD ARMOUR

THE ANESTHETIST

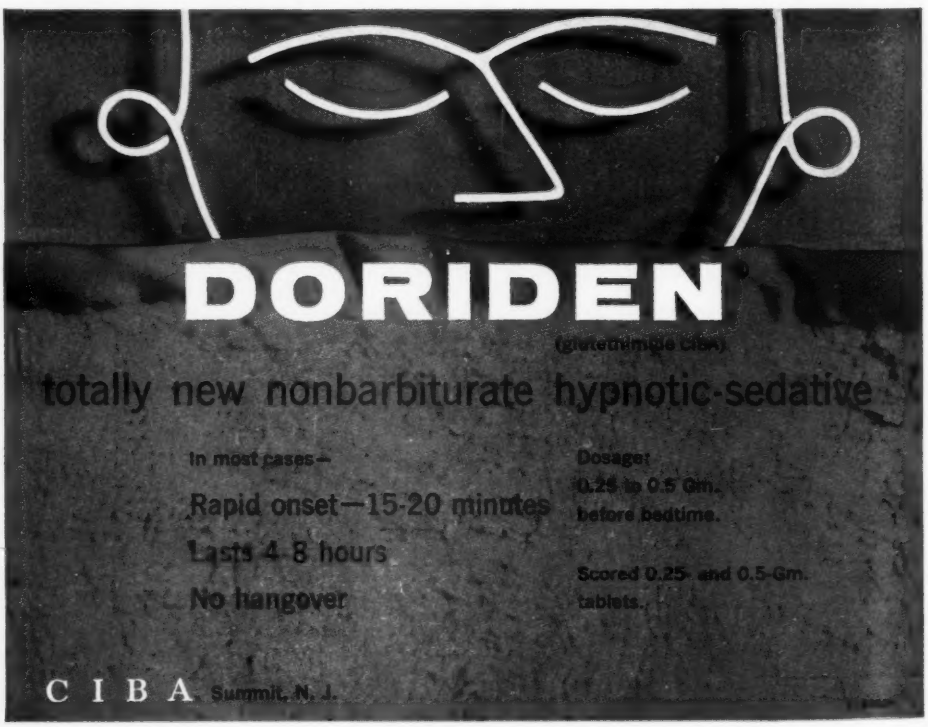
Give heed to the anesthetist,
A person who'd be sorely missed
By patients who object to pain
And surgeons cutting limb or brain
And nurses who well earn their wages
By feeling pulses, watching gauges.
It's the anesthetist, no less,
Who's conscious of unconsciousness
And, checking closely, doles the gasses out,
Whereon the patient promptly passes out.

SKIN GAME

I hail the dermatologist,
Who works upon the skin.
His field is not so deep as wide,
He sees what's doing (he's outside),
While others grope within.

His patients walk, his patients drive,
They're mostly mobile, very.
And house calls paid to distant lanes
To minister to aches and pains
Are quite unnecessary.

And best, while others' midnight rings
Cause sleeplessness and sorrow,
Between his smooth, unrumpled sheets
He takes his ease, for what he treats
Will wait until tomorrow.



Pyridium®

(PHENYLAZO-DIAMINO-PYRIDINE HCl)

Gratifying relief from urogenital discomforts *in a matter of minutes*

KEY ADVANTAGES: Rapid-acting, nontoxic urinary analgesic.
No systemic effects. Compatible with sulfonamides and antibiotics.

EFFECTIVE—In a study of 118 cases of pyelonephritis, cystitis, prostatitis and urethritis,[1] PYRIDIUM relieved or abolished dysuria in 95% of the patients and greatly reduced or abolished frequency in 85% of the cases.

NONTOXIC—PYRIDIUM produces rapid and entirely local analgesia of the urogenital mucosa. It may be administered in conjunction with sulfonamides or antibiotics to relieve distressing urogenital symptoms in the interval before the antibacterials can act.

PHYSIOLOGICAL—The soothing analgesic action of PYRIDIUM promotes relaxation of the sphincter mechanism of the bladder. This relaxation helps the patient to overcome urinary retention of spastic origin.

PSYCHOLOGICAL—PYRIDIUM imparts a characteristic orange-red color to the urine. This color-change gives patients added assurance of prompt action of the drug.

SUPPLIED: In 0.1 Gm. (1½ gr.) tablets, vials of 12 and bottles of 50, 500, and 1,000.

PYRIDIUM is the registered trade-mark of Nepera Chemical Co., Inc., for its brand of phenylazo-diamino-pyridine HCl. Sharp & Dohme, Division of Merck & Co., Inc., sole distributor in the United States.

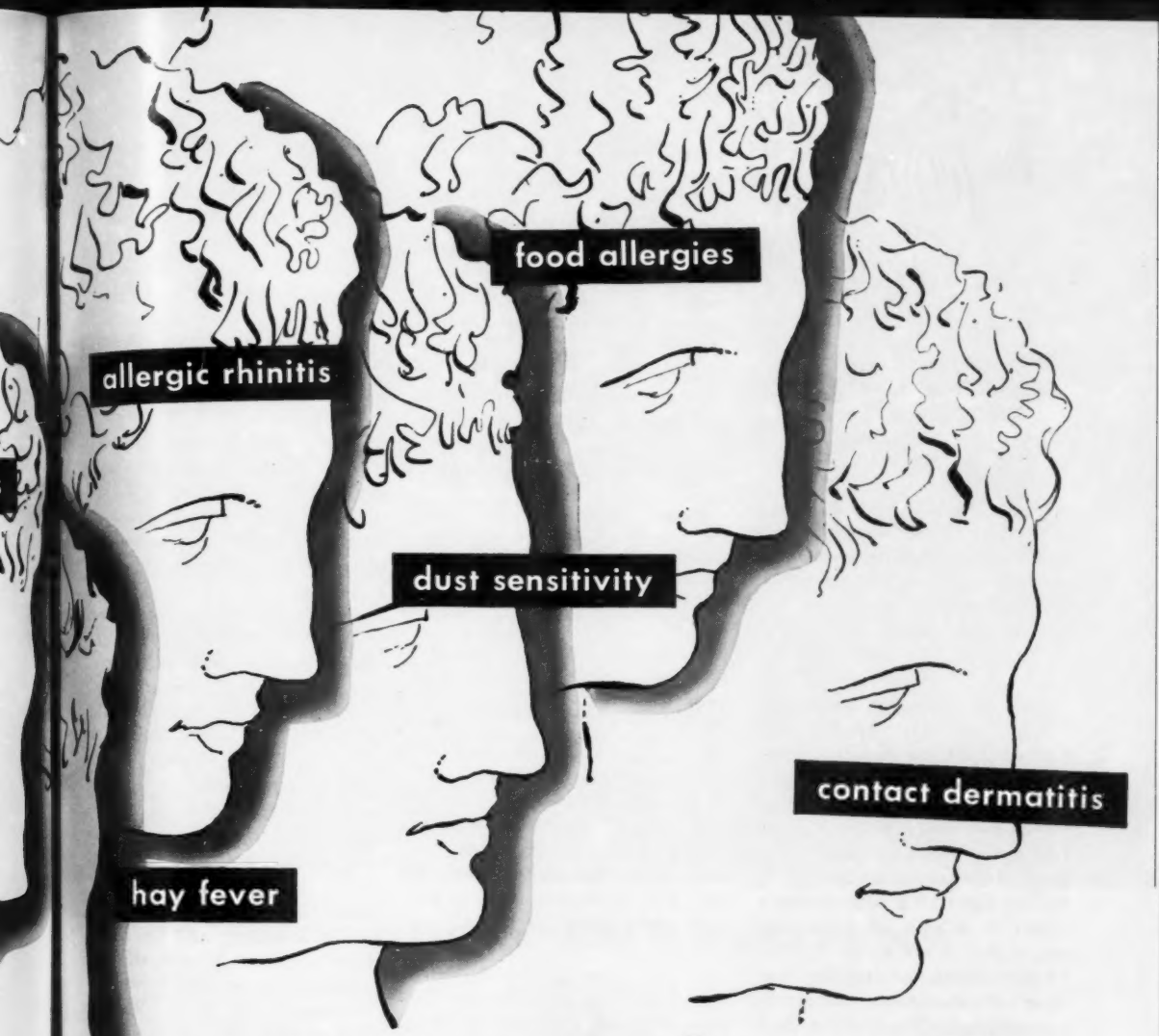
SHARP & DOHME

PHILADELPHIA 1, PA.

DIVISION OF MERCK & CO., INC.

REFERENCE: 1. Kirwin, T. J., Lowsley, O. S., and Menning, J., Am. J. Surg. **62**:330-335, December 1943.

drug allergies
urticaria



CLISTIN® MALEATE

(Carbinoxamine Maleate, McNeil)

Clistin has as potent an antihistamine action and as low an incidence of side effects as has any other previously employed histamine antagonist. With Clistin, drowsiness is unusual. The dosage is low—4 mg. gives most satisfactory clinical response.

Clistin is an innovation in antihistaminic compounds—why not try it on your next allergy case? Clinical samples available on request.

Clistin Tablets 4 mg.
Clistin Elixir 24 mg. per 30 cc. (1 fl. oz.)

Also available:
Tablets Clistin R-A (repeat action) 8 mg.—not NNR;
Clistin Expectorant—not NNR.

McNEIL
LABORATORIES, INC.
PHILADELPHIA 32, PA.

DR. Pepys' Pages

Personal Diary
and Observations on
Medical Life
by MORRIS FISHBEIN, M.D.

Dec. 30—To Indianapolis, going first to the Marott Hotel, now getting rid of its permanent residents and trying to become a first-class caravansary. In the evening to the Meyers' and played six-handed gin and did well.

Dec. 31—Lay late reading an involved mystery, "Fatal in My Fashion," by Pat McGerr—dealing with models and the dress industry, and a little perverse. In the evening to the Sam Mantels' for a New Year's Eve party with our friends of childhood, finding them all a little decrepit which is a sign of advancing years—but so are we all. And at 12:00 midnight toasting the New Year with champagne and everyone talking to the children and grandchildren. Then more mathematics till 4 A.M. and won again.

Jan. 1—Lay abed very late and at noon to luncheon with my sister and Charles Rauh, eating quail and currant jelly with wild rice and watched three or four football games. At night to Dave Lurvey's beautiful home for a scrumptious dinner cooked and served superbly with lively conversation and good spirits, and played again and won again. Nice beginning for a new year!

Jan. 2—All to the Broadmoor Country Club—Kahns, Cecile Kiser, Melville Cohn, Meyers, Lurveys and the Mantels for a grand mixed grill that Walter prepared. And played again and won again—and took a packed train home. En route read the mamma and daughter Chase's "Always in Vogue" about the life of a fashion magazine. The best of the book is the quotes from the best of the *Vogue* authors and the photographs revealing the changing fashions. One quote on the philosophy of geriatrics:

> For many years *Vogue* and I, along with the rest of the world, have advocated growing old gracefully. It is a philosophy I believe in, and yet I do not enjoy my own advancing years. Philosophy is all very well, but one is faced with the practical facts. Even if one does not consider the emotions, for a woman to live without a man is a great handicap. Then there is the question of health. All my life I have been too busy to be ill, and I am not ill today, but I am less well and I find the condition exasperating.

Jan. 3—At the desk with long-distance calls coming from far and not so far and a mass of mail and by evening again on an even keel playing "Scrabble."

Jan. 4—At noon to the meeting of the Chicago chapter of the National Foundation for Infantile Paralysis where Hart Van Riper told of the status of the vaccine. As an item of expense he mentioned that the Foundation had imported 8000 monkeys at $35 each and that kind of monkey business runs into money. From Oscar Gottfried comes a booklet, "Doctors Philatelic," reproducing postage stamps bearing the portraits of physicians.

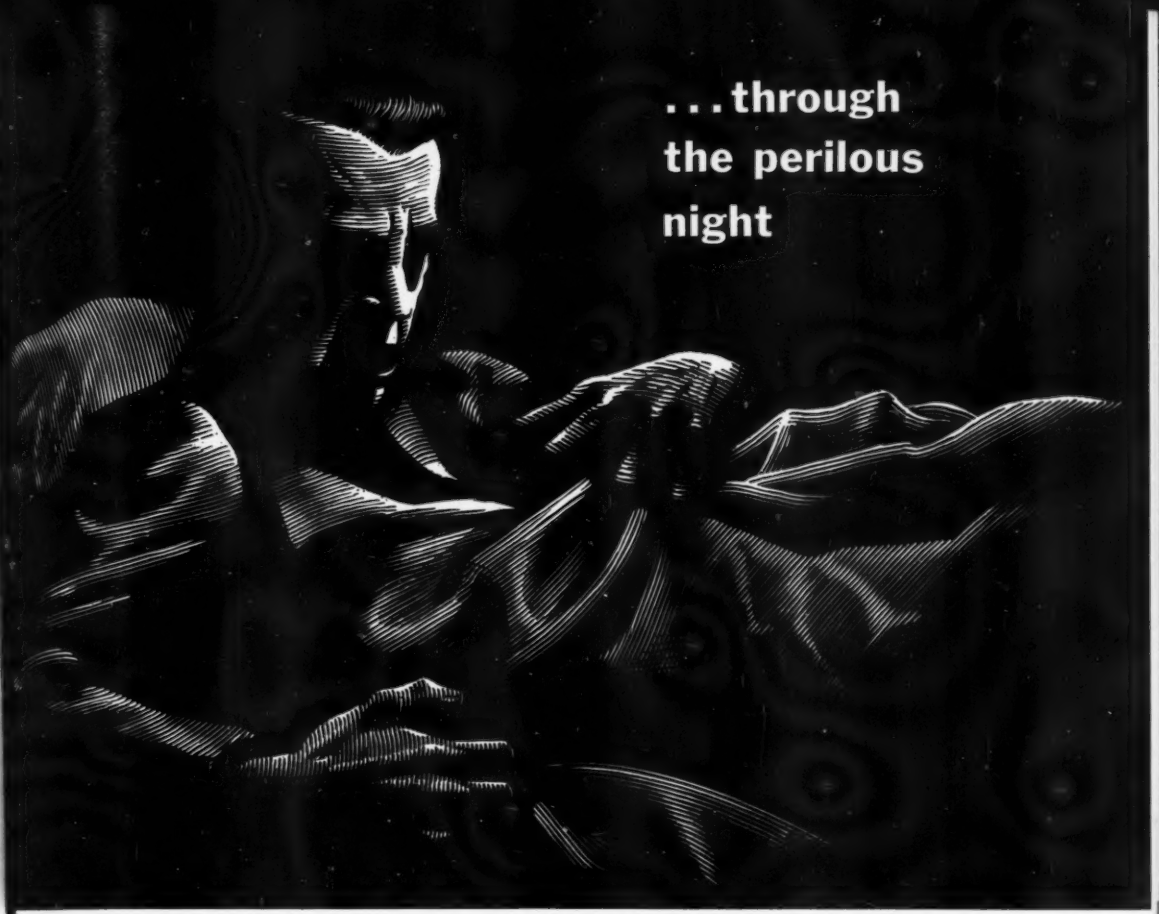
Jan. 5—To my physician for my annual check-up and found myself to be improved in some areas but my weight just as one year before, which is still too much. Reading "Trial" by Don Mankiewicz, who is the son of my old friend Herman—an absorbing tale of an alleged murder and the trial which is an indictment of pressure groups and of such legislative inquiries as those conducted by the Wisconsin senator.

Jan. 6—In Omaha, Nebraska, and the morning filled with press interviews and making three television filmings. At noon to lunch at the Omaha Club. In the afternoon viewing the Nebraska Methodist Hospital with its magnificent new operating suite and modernized rooms. In the evening a great multitude come to dine at the American Legion Hall where Charles Haney and B. O. Lyle spoke along with Dr. H. B. Hunt, who has a most efficient radiologic center, and Schenken, pathologist, and C. H. Waters, chief of staff. Then home on the Zephyr.

Jan. 7—At noon to the Hall of Fame for Surgery along with Thorek, Daro, Tom Jones and the photographers and newshawks of the Chicago *Tribune*. Here came Dr. Nieto, surgeon from Mexico City, and then all to the Cape Cod Room at the Drake for luncheon on red snapper.

Jan. 8—This morning Ed Stegen to reminisce of old times and to prospect new ventures. In the evening with Billy Meyers

(Continued on page A-132)



You can prevent attacks in angina pectoris

Fear is a faithful companion. In angina pectoris, particularly, many patients live in constant dread of recurrent attacks.

Prophylaxis with Peritrate, a long-acting coronary vasodilator, offers new security in a majority of such cases. A single dose affords protection for as long as 4 to 5 hours, compared to 30 minutes or less with nitroglycerin.

Different investigators[1-3] observed that 80% of their patients responded to Peritrate therapy with fewer, less severe attacks . . . reduced nitroglycerin dependence . . . improved EKG's.

A variety of convenient dosage forms now extends these benefits. Peritrate Delayed Action tablets (10 mg.), taken with the regular bedtime dose of Peritrate (plain) help allay the fear of nighttime attacks. Adapted to the recommended daily dosage of 40-80 mg., Peritrate is available in 10 mg. and 20 mg. tablets. And when added sedation is indicated, you can prescribe Peritrate (10 mg.) with Phenobarbital (15 mg.).

1. Winsor, T., and Humphreys, P.: Angiology *3*:1 (Feb.) 1952. 2. Plotz, M.: New York State J. Med. *52*:2012 (Aug. 15) 1952. 3. Dailheu-Geoffroy, P.: L'Ouest-Médical, vol. 3 (July) 1950.

Peritrate®

tetranitrate

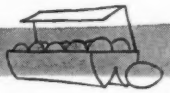
(BRAND OF PENTAERYTHRITOL TETRANITRATE)

WARNER-CHILCOTT

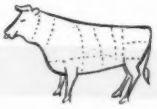
✶ MORE THAN 400 EGGS

... would be required to equal the 25 mg. thiamine content of a single capsule of "BEMINAL" FORTE with VITAMIN C, which also contains therapeutic amounts of other essential B factors and ascorbic acid as follows:

Thiamine mononitrate (B_1) ..... 25.0 mg.
equivalent to more than 400 eggs



Riboflavin (B_2) ..... 12.5 mg.
equivalent to at least 8 slices of liver



Nicotinamide ..... 100.0 mg.
equivalent to more than 10 loaves of bread

Pyridoxine HCl (B_6) ..... 1.0 mg.
equivalent to about 14 servings of spinach

Calc. pantothenate ..... 10.0 mg.
equivalent to almost 4 quarts of milk

Vitamin C (ascorbic acid) ..... 100.0 mg.
equivalent to more than 15 apples

"BEMINAL"® FORTE with VITAMIN C

Ayerst

Recommended whenever high B and C levels are required and particularly pre- and postoperatively. Suggested dosage: 1 to 3 capsules daily, or more as required.

No. 817—supplied in bottles of 100 and 1,000

5427

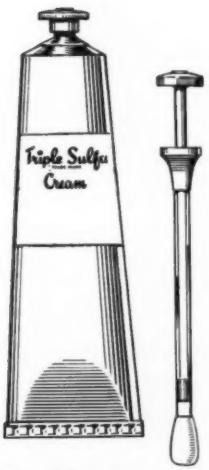
AYERST LABORATORIES • NEW YORK, N. Y. • MONTREAL, CANADA

in postpartum care

multiple sulfonamides

for maximum effectiveness

reduces postpartum morbidity
lessens discomfort
eliminates odor



Triple Sulfa Cream

TRADE MARK

in postpartum care
in nonspecific leukorrhea
after cervical conization

Ortho

and Pauline and their daughter and new son-in-law to the "Well of the Sea" at the Sherman, probably best in Chicago for sea food. Thereafter to play at gin with Meyers, Schuhmann and "No-Brainer" Sam Horowitz—the last named and old Pepys being plucked right merrily—and I do mean "plucked."

Jan. 9—By morning train to Springfield, Illinois, for dinner with Justin and Ann, after which to see a picture called "There's No Business Like Show Business," in which the gyrations of Marilyn Monroe induced a mild nausea and Donald O'Connor's romance with the damsel seemed totally artificial—but then who expects sense out of a musical?

Jan. 10—Up betimes and went to see the Illinois State Legislature in action. Happy to see so many young members participating but the oldsters still much in control. In the afternoon at my scrivening. Next to a television interview with Judy Craig, pretty and intelligent. Then to speak for the open forum to a goodly crowd, Robin Setlow introducing handsomely and many medicos in the audience. Thereafter, Drs. Salzman, Eveloff, Goodwin and the pharmacist Victor who sends POSTGRADUATE MEDICINE to many medicos—all to a beautiful party arranged by Justin and Ann at the famous Hotel Leland. Here also were Lieut. Gov. Chapman and the newspapermen Kanady and Jones and many more.

Jan. 11—Early awake and toward evening seized suddenly by the 24 hour intestinal virus which works up and down. Reminded of the young lady who was telling of her terrible voyage to Europe. "Were you sick both ways?" asked a friend. "No," she said, "I only vomited."

Jan. 12—All day recovering and suggest it be renamed the 48 hour virus. And read Lawrence

Farmer's book of letters and Beckman's "Year Book" of Drug Therapy, 1954-1955." His preface labeled "Introduction" is one of the most concise and practical records of therapeutic progress available. The language is occasionally startling for a medical contribution.

Jan. 13—Busy cleaning the desk and amused to find the Chicago *Tribune* feature story on the Hall of Fame for Surgery confused old Pepys and Justin. In the evening again on the Century to New York. En route played "Scrabble" and read "Hadrian's Memoirs," which is a sort of novel reminiscent of Wilder's "The Ides of March" and with much emphasis on Hadrian's love of boys.

Jan. 14—In New York come Soroko en route to Miami, and Henwood. Then for a long luncheon with Basil O'Connor, enjoying *Crab Louis*. Next come my associates Dr. H. B. Parmele and Alden James and for some three hours we are engrossed in problems of research—in particular of the nature of cancer. In the evening greeting friends at "21"—Jack and Bob Kriendler—and

(Continued on page A-136)

FOR PRACTICAL SERVICE AND GREATER ECONOMY
SOLAREUM (TRADE MARK REG.)
MEANS STRONGER FIBRES WITH NEW... RED RAY HEAT PROCESS!
plus
A MORE FLEXIBLE TABLE PAPER with lots of STRETCH
10 widths and diameters of Solareum TABLE PAPER ROLLS
6 widths and diameters of Verd-O-Lite TABLE PAPER ROLLS
6 sizes, Solareum TABLE PAPER in individual sheets
ALL ROLLS & INDIVIDUAL SHEETS PROCESSED
Handy zipcord opener on all rolls
Established in 1930
CONSULT YOUR SURGICAL DEALER TODAY

The Complete Sanitary Service For Physicians, Surgeons, Hospitals, and Health Institutions
A. G. Verdelyack Inc ★ 2029 WASHINGTON AVENUE SOUTH MINNEAPOLIS 4 · MINNESOTA

FROM PEDIATRICS

TO GERIATRICS

KNOX GELATINE DRINK

... *the liquid snack!*

FOR REDUCING DIETS
FOR MAINTENANCE DIETS

SATISFIES HUNGER . . . Yet contains only 28 calories for every drink.

NO SUGAR — Extremely useful in diabetic diets

SUPPLIES "INDISPENSABLE" AMINO ACIDS — KNOX has 7 out of the 8 "Indispensable" Amino Acids

ALL PROTEIN

EASY TO DIGEST . . . EASILY ASSIMILATED . . . HELPS MAINTAIN NITROGEN BALANCE

Growing up or Growing old . . . supplement protein needs with KNOX.

KNOX GELATINE DRINK . . *EASY TO MAKE . . EASY TO TAKE*

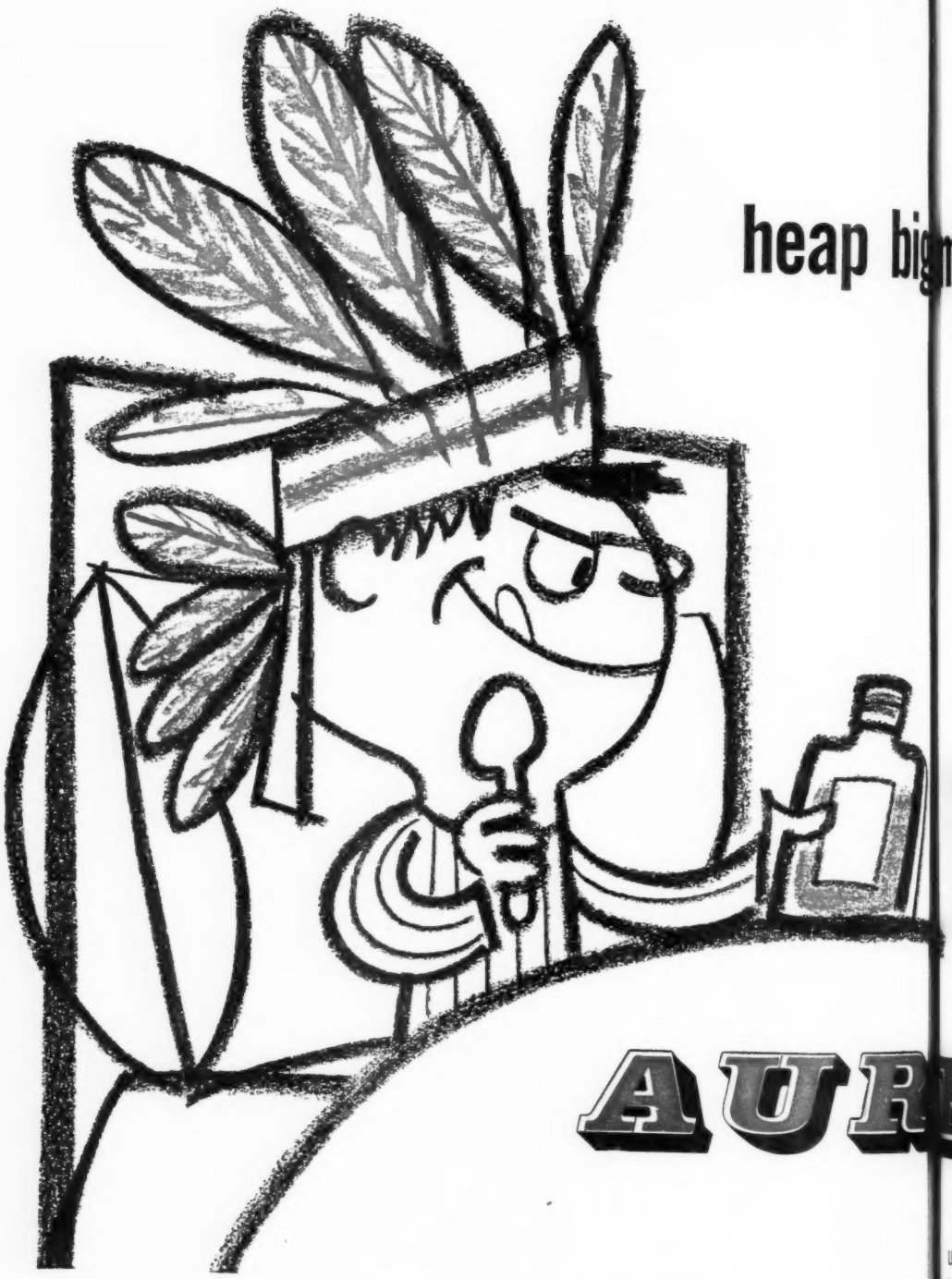
HOW TO ADMINISTER KNOX GELATINE DRINK — Instruct the patient to pour one envelope of Knox Gelatine (7 grams — 28 calories) into a ¾ glass of unsweetened fruit juice or water, not iced; let the liquid absorb the gelatine, stir briskly and drink at once. If it thickens, add more liquid and stir again. Two envelopes or more a day are average minimal doses.

KNOX
GELATINE U. S. P.

ALL PROTEIN
NO SUGAR

For additional information or details, write
KNOX GELATINE, JOHNSTOWN, N.Y. DEPT. PM-3

Available at grocery stores in 4-envelope family size and 32-envelope economy size packages.


heap big
AUR

bigmedicine! heap good taste!

AUREOMYCIN SYRUP

Many a young Indian has taken his medicine and liked it because the doctor specified AUREOMYCIN CALCIUM SYRUP, a mildly sweet suspension with a delicate lime flavor.

Its potency of 125 mg. per teaspoonful (4 cc.) enables you to prescribe a specific dose to fit the patient—one which the parent can administer with accuracy. The syrup retains its potency for a year, and needs no refrigeration.

Long, widespread use has proved AUREOMYCIN to be a well-tolerated, broad-spectrum antibiotic promptly effective against a great variety of infections. Next time the patient is a young and wild one—remember AUREOMYCIN SYRUP!

Dosage forms for every medical requirement.

REOMYCIN*

Chlortetracycline *Lederle*

LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY PEARL RIVER, NEW YORK

Lederle

*REG. U. S. PAT. OFF.

then with Bill and Mildred Lasdon to see "Witness for the Prosecution"—Agatha Christie's thriller, which has the London cast.

Jan. 15—Lying late and reading. In the afternoon shopping in the book and record shops. In the afternoon come Milton Runyon, concerned with a strike in the bindery, and Laura and Herb and Grace Mayes with their beautiful and wholly delightful daughters, Vicky and Alex. To see "The Flowering Peach" by Clifford Odets, which deals with Noah and the Ark, Noah being played to the hilt by Menashak Skulnik. As Noah reproaches Japheth for disrespect, he replies: "Father, I love you and respect you as much as if you were dead." And Noah keeps on asking: "I wonder why the Lord chose this family to save." The high point in audience humor is the arrival of the bribable tax collector.

Jan. 16—For luncheon comes the Herlitz entourage and from Cuba, Araujo and Piedra, and much talk of our *Revista*. Next to Ed Stegen's for cocktails and met there Sherman Dreier and Dorothy Ducas and Herzog and Dr. Gordon with whom a lively discussion on hypnotism. Still later to the Savoy Plaza to a dinner for the Friends of the University in Jerusalem and heard inspiring speeches and some lively jokes, dining with Dr. and Mrs. B. A. Goodman and Albright, Sanskrit scholar from the University of Pennsylvania who told me of psychosomatic medicine in the Talmud.

Jan. 17—Quite early to McGraw-Hill for conferences with Frank Egner and Eunice Stevens. Then to luncheon at Memorial Hospital with Mrs. Cornelius Rhoads and learned of the new work of Gallagher, Burchenal, Nickson and Sutherland. Especially impressed by the lavishness of the facilities and the devotion of the staff. Thereafter to Doubleday for meetings with Ralph Beebe, Josephine Lees and Joe Marks. Next come Eunice Stevens and Sylvia Covet and we dined on steaks at the Black Angus and went to see "The Bad Seed," from the book by William March, dramatized by Maxwell Anderson. This is such a portrayal of the horror of a child psychopath as to leave one shuddering.

Jan. 18—My breakfast with Bill Craft who is always cheerful, and Larry Joselit joined us. Next come the writer, Lawton Mackall, whose brother, Leonard, was a great scholar, and who himself wrote about "Good Eating" in New York. We talked of Portugal about which he is now writing and of our many friends. At noon to luncheon at Passy's with my friend Richard Lewisohn of citrated blood fame, along with Bill and Florence Laurence and Mistress Pepys and Therese Rivers and it went merrily and was a gourmet's delight. Next conferred about a radio program and after that to the Pierre where came 160 industrialists, journalists, advertisers and publishers to honor Araujo, Nogueira and Piedra, and I was honored to welcome Elmer Bobst, Al Driscoll, Bill and Milton Lasdon and Dr. Mast, Basil O'Connor, Bill Frohlich, I. C. Rubin, Houston Merritt, John Cotton, Ernst Hammer of Geigy, Dr. James Pi Sunyer who did "Medical Writing" in Spanish, Cant of *Time*—indeed, 160 notables with good food, good fun and good will.

(Continued on page A-138)

DIETARY MANAGEMENT

FOR HARD, DRY STOOLS OF
Constipated Babies

Borcherdt
MALT SOUP
*Extract**

A gentle laxative modifier of milk. Just 1 or 2 tablespoonfuls in day's formula softens stools, usually overnight. Safe and easy to use.

GOOD FOR GRANDMA, TOO!

For thin, under-par older patients, acts as nutritional malt laxative. Softens stools without side effects by promoting aciduric flora. Grain extractives and potassium ions contribute to the gentle laxative effect. Dose: 2 Tbs. A.M. and bedtime for several days until stools are soft, then 1 or 2 Tbs. at bedtime to maintain regularity.

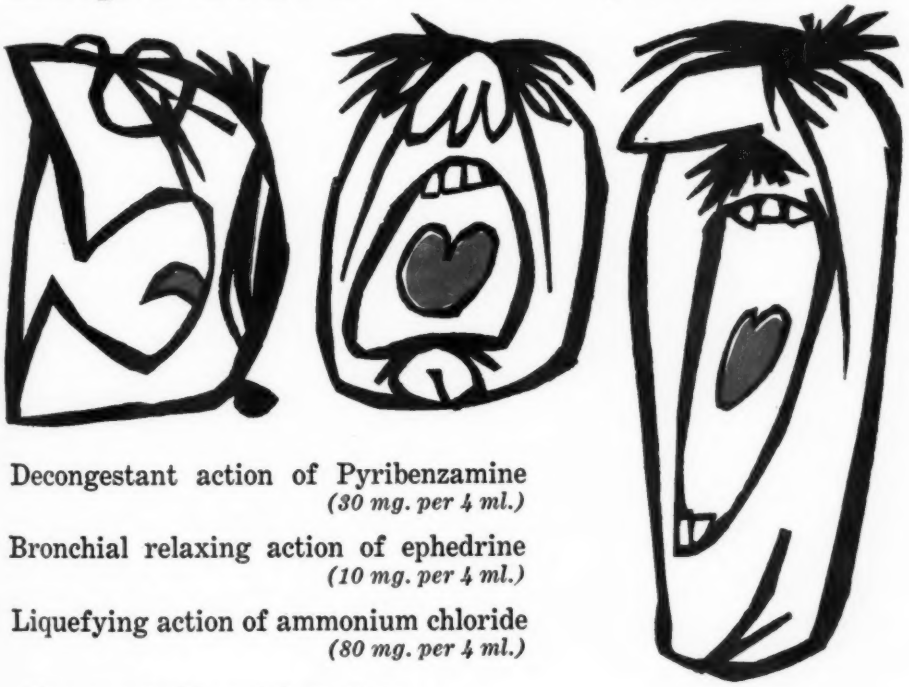
* Specially processed malt extract neutralized with potassium carbonate. In 8 oz. and 16 oz. bottles.

Send for Regular Stock Bottle

BORCHERDT MALT EXTRACT CO.
217 N. WOLCOTT AVE., CHICAGO 12, ILL.

coughing patients need Pyribenzamine®

Expectorant with Ephedrine for



Decongestant action of Pyribenzamine
(30 mg. per 4 ml.)

Bronchial relaxing action of ephedrine
(10 mg. per 4 ml.)

Liquefying action of ammonium chloride
(80 mg. per 4 ml.)

Also available with Codeine
(8 mg. per 4 ml.)

Pyribenzamine® citrate (tripelennamine citrate CIBA)

CIBA
SUMMIT, N. J.

2/20648

Jan. 19—At breakfast Mel Evans who will work with me on a new book. Then to a conference with Gillon of American Home Products and to luncheon at the Overseas Press Club. In the afternoon working on "Medical Writing" with Eunice Stevens and Miss McGuire and then home on the Century.

Jan. 20—At the desk after placing Nogueira at the health department, Araujo with Talmage to see allergy research at Billings and Piedra with Hesseltine at Lying-In. At noon all come to a luncheon with the Herlitzes which Mistress Pepys served to a king's taste. In the evening all to the Ambassador East for a reception where came 60 of Chicago's leaders, all delighted with our Latin American guests. Here were Boshes, Harry Hoffman, Austin Smith, Tom Gardiner, Carl Petersen, Milton Peterson, Emmett Brown of Hospital Supply, Ron Gibbons, van Dellen, Mallinson and McDowell from Eli Lilly, Bosch from Parke, Davis and Scott from Searle, and also Herman Bundesen, Max Thorek, Ernest Irons, Mr. and Mrs. Pedro Vila and Amaury Escalona and many more.

Jan. 21—To the airport in a great snow to see the Cuban colleagues depart and on the same plane Dr. A. Lash and his lady. At noon to the Board meeting for La Rabida and great progress being made. Riding home with Byerrum and exchanging comic tales.

Jan. 22—At the desk and watched Northwestern overwhelm Iowa in basketball—the game is not what it used to be. In the afternoon to Kroch's new bookstore greeting Adolph and Carl and publishers from far and wide. Then to dine with Francois and Antoinette Pope whose foods are works of art and made up my mind to enroll for six hours in their men's course, albeit Mistress Pepys such a master of this art that old Pepys' learning will be superfluous.

Heard of a damsel in New York who was kept in a gorgeous apartment by a tycoon. Suddenly she announced she was giving it up. "Why?" asked a friend. She replied: "My louse expired."

Jan. 23—All the day reading in medicine and its history and writing biographical notes. In the evening to the Standard Club to dine with Joe Cohen, Watson and the Luisadas. Then returning home sat until 12:30 watching the bowling tournament.

Jan. 24—Reading "Fragebogen"—the answers of a German cynic to the questionnaire circulated by the Americans to some hundreds of former Nazis. What a revelation of the mass mentality before and since World War II!

Jan. 25—All day at the desk and the cold acts as a stimulus to the scrivening.

Jan. 26—At noon to the meeting of the board of the Chicago Heart Association.

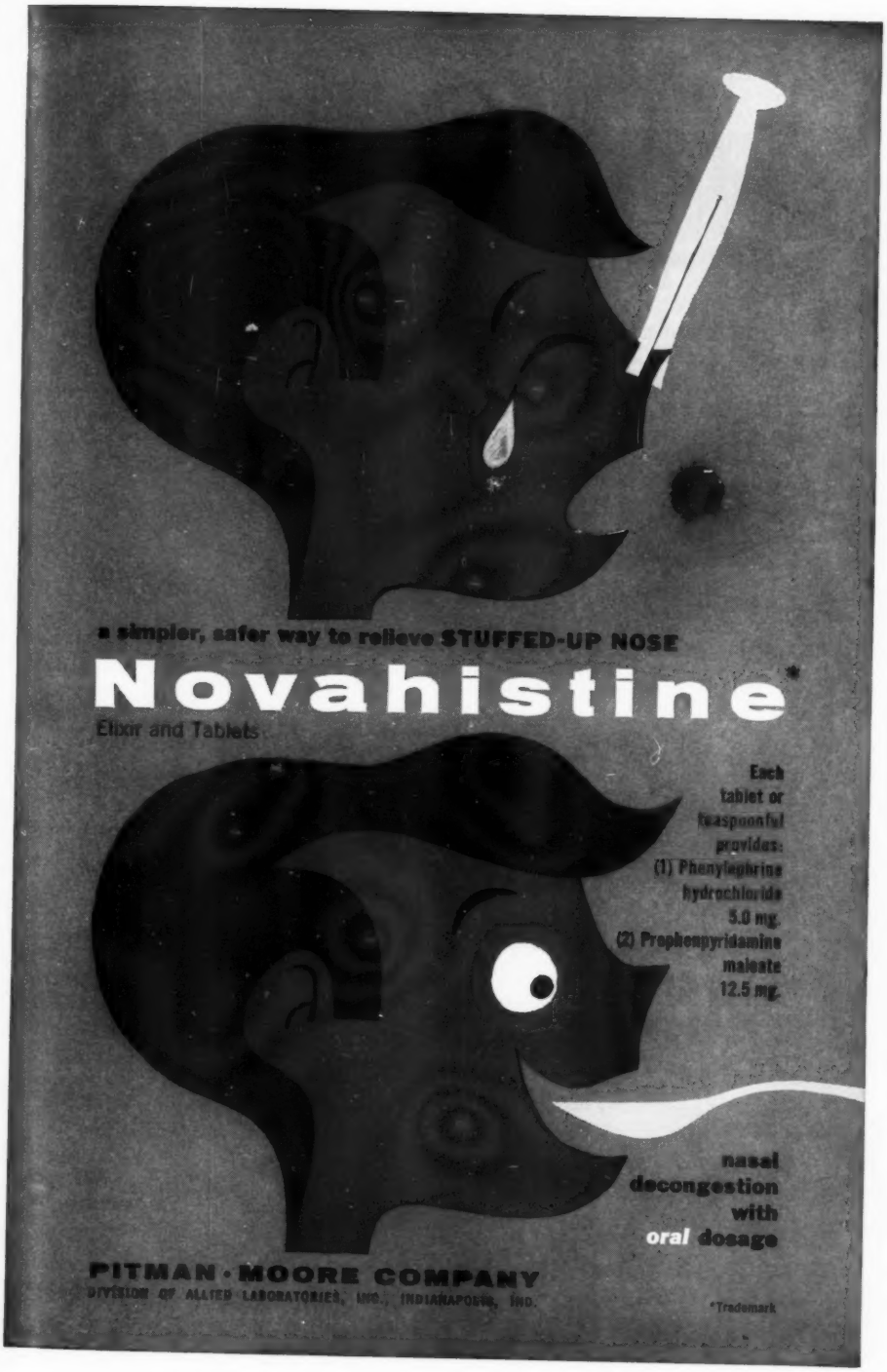
Jan. 27—At noon to a meeting of the committee of the Morris Fishbein, Jr. Memorial Fund—Fenn, Bay, Gibson, Katz, Clough and old Pepys—and we voted a fellowship in cardiology at La Rabida.

Jan. 28—To the committee on education of the Chicago Heart Association, learning of plans for lectures, pamphlets, movies, and a billboard to which great artists will contribute of their skill. At night to the Byfields' for a dinner of wild game and met again Max Cutler, Sam and Ruth Hirsch, and my tax expert.

Jan. 29—At noon to the Tavern Club to luncheon with Max Thorek, working out the plans for dedicating the statue in front of the Hall of Fame. In the afternoon with the ladies' auxiliary of the 52 Association to hear Virginia Marmaduke recapitulate "This Is Your Life."

Jan. 30—In the afternoon playing at bridge with the experts and did well. In the evening saw Ed Sullivan with all the radio artists of the 1920s.

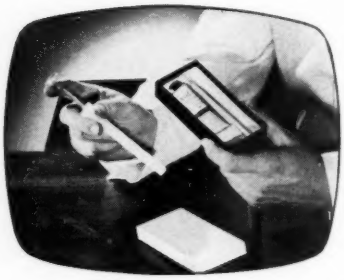
Jan. 31—All day at the desk producing a variety of writings in a veritable frenzy of scrivening. In the evening Z. W. presides as president at the Boss Night Dinner of her chapter of the National Secretaries Association; Ednyfed Williams introduced John Carmichael to talk of "Inside of Sports"—and in his day when he was doing post mortems old Pepys saw insides of lots of sports. There are so many people and so much going on that anyone may well be proud of a moment in the sun.


a simpler, safer way to relieve STUFFED-UP NOSE
Novahistine*
Elixir and Tablets
Each tablet or teaspoonful provides:
(1) Phenylephrine hydrochloride 5.0 mg.
(2) Prophenpyridamine maleate 12.5 mg.
nasal decongestion with oral dosage
PITMAN-MOORE COMPANY
DIVISION OF ALLIED LABORATORIES, INC., INDIANAPOLIS, IND.
*Trademark

AVC IMPROVED for T.V.

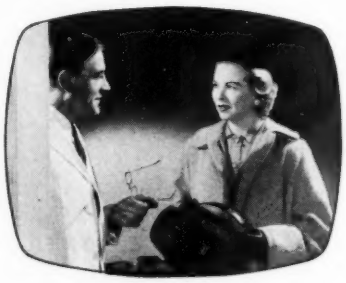
(TREATMENT OF VAGINITIS)

"...but why should **I** have this trouble?"
"Vaginitis is not at all rare, and there are three common causes. Fortunately, we have one simple treatment effective for every type: **AVC** cream."



"With **AVC** cream you can expect relief of discomfort **promptly.** Continue treatment for a month to make doubly certain that the infection is eliminated **completely.**"

"A cream, by its very nature, is the most effective preparation for vaginitis. It has uniform concentration, it spreads, diffuses and penetrates; and **this** cream—**AVC**—with its low surface tension, seeks out and destroys the bacteria, fungi, or trichomonads causing the vaginitis."



"These instructions are certainly simple enough. . . ."
"Yes, and you'll find that while **AVC** cream effectively cures the infection, it will not irritate, is not greasy, and will not stain."

AVC IMPROVED

NATIONAL

ANTIBACTERIAL
ANTI-MONILIAL
SIMPLE.
PLEASANT TO USE
NON-STAINING
TRICHOMONOCIDAL

Allantomide® Vaginal Cream with 9-aminoacridine, 0.2%; sulfanilamide, 15%. 4-oz. tubes, plastic applicator.

THE NATIONAL DRUG COMPANY *Philadelphia 44, Pa.*

In this...
"the Commonest Disease of Civilized Man"

- In hypertension, management can now be started in the earliest stages . . . to retard progression, with the goal of prolonging useful life.

- Fully one half of all cases of mild, labile hypertension can be controlled with simple Rauwiloid therapy.

- Rauwiloid accomplishes what mere sedation cannot . . . the patient is spared the reaction to tension situations . . . without somnolence, without clouded sensorium, without change in alertness.

- The feeling of well-being engendered by Rauwiloid may become manifest as soon as 24 to 48 hours after the first dose. Its antihypertensive effect becomes apparent in two to three weeks.

- In the face of tension-producing stimuli, Rauwiloid, through its sedative and bradycrotic properties, provides tranquil equanimity.

- Its dosage schedule is uncomplicated, definite, easy to follow: Merely 2 tablets at bedtime. For maintenance, 1 tablet usually suffices. No contraindications.

Rauwiloid® *First Thought IN HYPERTENSION*

Riker LABORATORIES, INC., LOS ANGELES 48, CALIF.

The Number 1 Rule

in Prenatal Nutrition

Phosphorus and calcium *should not be combined within one formula,* because phosphorus depresses the assimilation of calcium. This interdicts the use of dicalcium phosphate as a calcium source.[1,2,3]

In CALCISALIN, the *new* prenatal supplement, *calcium lactate* replaces dicalcium phosphate, and aluminum hydroxide gel is employed to eliminate excess dietary phosphorus. Also included are iron, and the required vitamins for the diet of pregnancy. Biochemical determinations of ionic serum calcium in pregnant patients prove that Calcisalin builds higher calcium levels than supplements which include dicalcium phosphate.[4] Examine the formula of the prenatal supplement you are now prescribing. If it contains phosphorus in any form, send for clinical data and samples of Calcisalin.

1. *Page, E. W. and Page, E. P., Obs. and Gyn., Jan. 1953*
2. *Newman, R. L., Am. J. Obs. and Gyn., April 1953*
3. *Hawker, W. D., Mo. Med., Sept. 1954*
4. *Gross, Wager et al, Bull. Marg. Hague Matern. Hosp., Dec. 1953*

CALCISALIN®

The new Phosphorus-free Prenatal Supplement

HARROWER

THE HARROWER LABORATORY, INC.
930 Newark Avenue, Jersey City, N. J.

Urecholine® CHLORIDE

(BETHANECHOL CHLORIDE, MERCK)

Helps keep catheters and duodenal tubes on the shelf

MAJOR ADVANTAGES: Acts directly on smooth muscle cells; not destroyed by cholinesterase; minimal side effects; easily antagonized by atropine.

"URECHOLINE is a potent, parasympathetic stimulant with relatively low toxicity and no serious side effect." It "causes contraction of both the normally innervated bladder and the cord bladder and is of considerable therapeutic value in the treatment of postoperative urinary retention."[1] "Clinical observation made on 100 post-surgical patients when URECHOLINE was used, demonstrated a definite decrease in the incidence of abdominal distention."[2] URECHOLINE may be administered orally or subcutaneously—subcutaneous injection is the more effective mode of administration in acute urinary retention.

OTHER INDICATIONS: Postpartum urinary retention, hexamethonium-induced side effects, and megacolon.

SUPPLIED: 5 mg. tablets, bottles of 100; 1-cc. ampuls, 5 mg./cc.

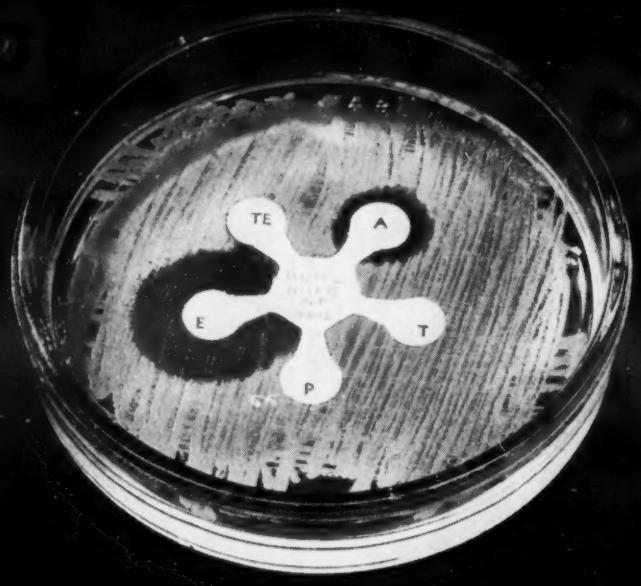
COUNCIL ACCEPTED

SHARP & DOHME

PHILADELPHIA 1, PA.
DIVISION OF MERCK & CO., INC.

REFERENCES: 1. Stein, I. F., Jr. and Meyer, K. A., Quart. Bull. Northwestern Med. School **23**:391, Fall 1949. 2. Stafford, C. E., Kugel, A. I. and Dederer, A., Surg. Gynec. & Obst. **89**:570 Nov. 1949.

against staphylococci



This is an actual strain of *Staphylococcus aureus,* isolated from a five-week-old infant. Note extreme sensitivity of the organism to ERYTHROCIN—although it easily resists the four other antibiotics. This organism may be associated with *sinusitis . . . otitis media . . . tonsillitis . . . abscess . . . bronchopneumonia . . . empyema . . . carbuncle . . . pyoderma . . . bronchiectasis . . . furunculosis . . . pharyngitis . . . septicemia . . .* and *tracheobronchitis.*

for specific therapy against coccic infections...

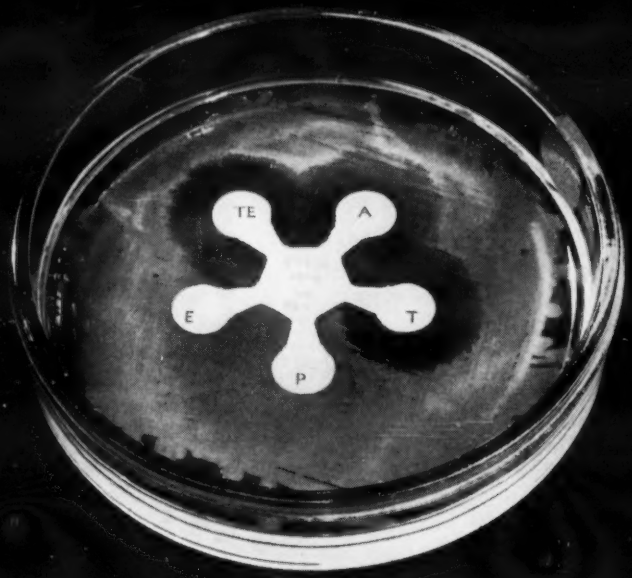
Wide range activity against gram-positive pathogens—that's the story of ERYTHROCIN *Filmtab**. As you know, most bacterial respiratory infections are produced by staph-, strep- or pneumococci. *And that is the very range where* ERYTHROCIN *is most effective.* In fact, you'll find it more active against this group of organisms than many other antibiotics.

filmtab*

Erythrocin® STEARATE

(ERYTHROMYCIN STEARATE ABBOTT)

against common intestinal flora



This sensitivity test shows ERYTHROCIN and the same antibiotics against a typical strain of *E. coli*. Note that ERYTHROCIN and penicillin do not affect growth of the organism—while the other antibiotics show marked inhibitory action. Since ERYTHROCIN is inactive against gram-negative organisms, it is less likely to cause alteration in common intestinal flora—with an accompanying low incidence of side effects.

...with little risk of serious side effects

One reason is because the drug acts specifically. It destroys coccic invaders, yet doesn't materially change the normal intestinal flora. Thus, side effects are rarely encountered with ERYTHROCIN. Nor does it cause the allergic reactions occasionally seen with penicillin. Abbott

filmtab*

Erythrocin® STEARATE

(ERYTHROMYCIN STEARATE ABBOTT)

*TM FOR ABBOTT'S FILM SEALED TABLETS, PAT. APPLIED FOR

503111

first in advantages for low-salt therapy

DIASAL®

salt substitute of choice

for congestive failure
essential hypertension
obesity
and whenever low salt is indicated

TASTE POUR-QUALITY APPEARANCE STABILITY	help keep patients on low-sodium diets
FREEDOM FROM UNPLEASANT AFTERTASTE	Keeps food attractive— prevents nutritional deficiencies
OPTIMAL POTASSIUM CHLORIDE CONTENT	avoids borderline hypopotassemia—makes DIASAL "...the product of choice for this purpose."*

DIASAL contains only potassium chloride, glutamic acid and inert ingredients...no sodium, lithium, or ammonium... and it is safe for prolonged use, both at the table and in cooking.

packaging: available in 2-ounce shakers and 8-ounce bottles. Send for liberal supplies of tasting samples and low-sodium diet sheets for your patients.

*Fremont, R. E.; Rimmerman, A. B., and Shaftel, H. E.: Postgrad. Med. *10*:216, 1951.

E. FOUGERA & CO., INC. 75 Varick St., N. Y. 13, N. Y.

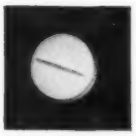
simplified emergency digitalization

The new 'Wellcome' Solution of Digoxin for Injection may be given intramuscularly, as well as intravenously, without dilution.

Digoxin 'B. W. & Co.'®

Parenteral: 'Wellcome'® brand Solution of Digoxin for Injection
in a vehicle of 40% Propylene Glycol and 10% Alcohol
0.5 mg. (0.25 mg. in each cc.) 2 cc. ampuls—Boxes of 12 and 100

dependable maintenance



Oral: 'Tabloid'® brand Digoxin
0.25 mg. Scored—Bottles of 100, 500, and 1,000

Full information will be sent on request.

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe 7, New York

TECHNICAL EXHIBITS — IN PRINT

PHARMACEUTICAL SPECIALTIES, SURGICAL INSTRUMENTS, PEDIATRIC AND DIETETIC FOODS, MEDICAL BOOKS AND OTHER PRODUCTS AND SERVICES

Abbott Laboratories
- Sur-Bex A-7
- Dayalets A-27
- Selsun A-45
- Bevidoral; Vita-Kaps; Gerix; Maxilets; Dicalets; Bejectal A-62-63
- Optilets A-85
- Vi-Daylin A-112-113
- Erythrocin A-144-145
- Iberol A-152

Ames Company, Inc.
- Decholin; Clinitest; Acetest; Ictotest; My-B-Den; Aminet; Diatussin; Bi-co-tussin A-76

Appleton-Century-Crofts, Inc.
- Medical Books A-77

Armour Laboratories, The
- Tri-Synar A-82-83

Ascher, B. F., & Company, Inc.
- Convertin A-18

Ayerst Laboratories
- Clusintrin A-20
- Clusivol A-71
- Premarin A-81
- Thiosulfil A-98
- Beminal A-130

Becton, Dickinson & Company
- Ace Bandages A-61

Borcherdt Malt Extract Co.
- Malt Soup Extract A-136

Borden Company, The
- Bremil A-25
- Cottage Cheese A-37
- Mull-Soy A-120

Bristol Laboratories, Inc.
- Polycycline ..... Facing A-88-89

Burroughs Wellcome & Company, Inc.
- Marezine A-70
- Digoxin A-147

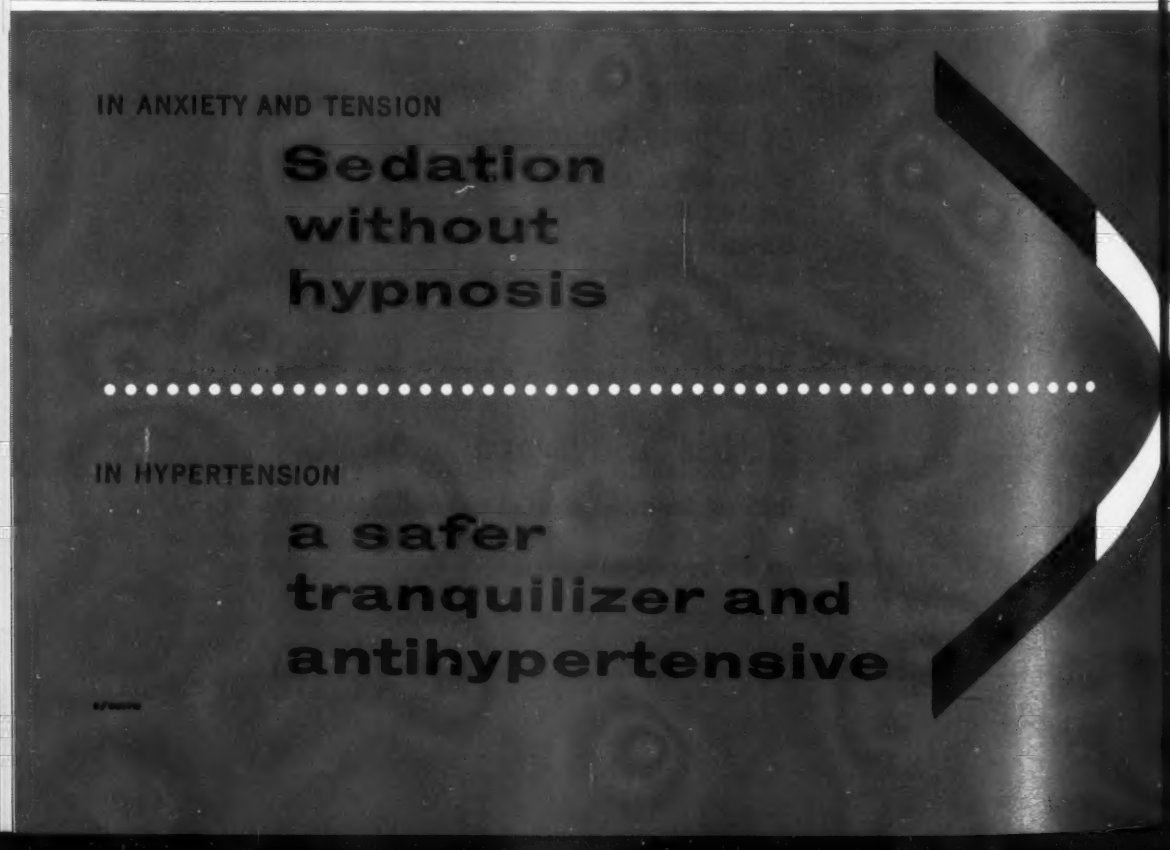
Central Pharmacal Co.
- Neocylate with Cortisone A-88

Cereal Institute
- Cereals A-104

Chicago Dietetic Supply House Inc.
- CellU Dietary Foods A-150

Chicago Pharmacal Company
- Urised A-21

Ciba Pharmaceutical Products, Inc.
- Serpasil A-10-11-148-149
- Doriden ..... A-28-124-Fourth Cover



Serpasil; Serpasil-Apresoline; Apresoline A-54-55
Antrenyl-Phenobarbital A-89
Pyribenzamine A-137

Desitin Chemical Company
Desitin Lotion A-64

Dietene Company, The
Meritene A-95

Doho Chemical Corp.
Rhinalgan A-30

Eastman Kodak Company
Signet 500 Projector A-49

Eaton Laboratories
Furadantin A-31

Fleet, C. B., Company, Inc.
Fleet Enema A-117

Fougera, E., & Company, Inc.
Diasal A-146

Geigy Pharmaceuticals
Butazolidin A-102

Gray Pharmaceutical Co., Inc.
L-Glutavite A-47

Harrower Laboratory, Inc., The
Calcisalin A-142

Hoffmann-La Roche, Inc.
Gantrisin A-32
Vi-Penta A-50
Roniacol ..... Facing A-120-121

Holland-Rantos Company, Inc.
Koromex A-116

Horlicks Corporation
Nulacin A-150

Knox Gelatine Co.
Gelatine A-133

Kretschmer Corporation
Wheat Germ A-116

Lakeside Laboratories, Inc.
Piptal A-72
Dactil A-73

Lavoris Company, The
Lavoris Mouthwash A-151

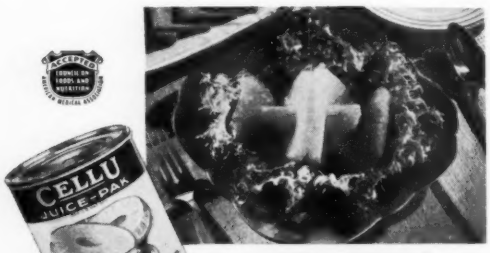
Lederle Laboratories
Diamox A-4
Hibicon A-35
Perihemin A-48
Mumps Vaccine A-80
Achromycin A-106-107
Aureomycin A-134-135

Leeming, Thos., & Company, Inc.
Metamine with Butabarbital A-26

Lilly, Eli, & Company
Vi-Mix Drops; Homicebrin; Multicebrin Jr.;
Multicebrin; Mi-Cebrin; Theracebrin;
Prenalac ..... Facing A-32-33

FOR MAINTENANCE THERAPY
℞ as little as
0.1 mg. per day
Serpasil
(reserpine CIBA)
a pure crystalline alkaloid of rauwolfia root first
identified, purified and introduced by CIBA
CIBA SUMMIT, N. J.

Lloyd Bros., Inc.
Roncovite A-96
McNeil Laboratories, Inc.
Clistin A-126-127
Maroc Company
Maroc Powder A-95
Massengill, S. E., Company
Obedrin A-29
Livitamin A-57
Salcort A-108
Merrell, The Wm. S., Company
Meratran A-92-93
Mead Johnson & Company
Lonalac A-103
National Apple Institute
Apples A-75
National Drug Company, The
AVC A-140
Organon, Inc.
Trevidal A-56
Ortho Pharmaceutical Corp.
Triple Sulfa Cream A-131
Parke, Davis & Company
Chloromycetin A-53
Pet Milk Company
Instant Pet Nonfat Dry Milk A-51
Pfizer Laboratories, Div. of Chas. Pfizer & Co., Inc.
Terramycin-SF; Tetracyn-SF;
Pen-SF A-39-40-41-42-43
Cortril A-87
Tyzine A-121
Pitman-Moore Company
Poliomyelitis Vaccine A-33
Novahistine A-139
Revlon Products Corporation
Cosmetics A-118
Riker Laboratories, Inc.
Pentoxylon A-19
Rauwiloid A-141
Robins, A. H., Company, Inc.
Entozyme; Allbee with C ..... Facing A-64-65
Roerig, J. B., & Company
AM Plus; ASF; Bonadoxin; Heptuna Plus;
Obron; Obron Hematinic; Roetinic;
Vi Terra; Vi Terra Therapeutic A-52
Sanborn Company
Viso-Cardiette A-119
Sandoz Pharmaceuticals
Cafergot A-91
Saunders, W. B., Company
Medical Books A-14-15
Schenley Laboratories, Inc.
Titralac A-109



VARIETY FOR RESTRICTED DIETS

Cellu Dietetic Foods take the monotony out of restricted diets. The complete line of Fruits, Vegetables, Tuna, Salmon, Shrimp, Bread and many others, make menu planning easy. Complete contents are plainly shown on all labels.

LOW SODIUM
LOW CARBOHYDRATE
ALLERGY DIETS

Wheat-Free Egg-Free Milk-Free

FREE—Send for catalogs.

CELLU SPECIAL PURPOSE *Dietary Foods*

CHICAGO DIETETIC SUPPLY HOUSE *Inc.*
1750 West Van Buren Street Chicago 12, Illinois

"THE NEAREST APPROACH TO THE CONTINUOUS INTRAGASTRIC DRIP FOR THE AMBULATORY PATIENT"*

NULACIN

A pleasant-tasting tablet...to be dissolved slowly in the mouth...not to be chewed or swallowed...made from milk combined with dextrins and maltose and four balanced non-systemic antacids...**

Promptly stops ulcer pain...holds it in abeyance...and hastens ulcer healing.

In tubes of 25 at all pharmacies. Physicians are invited to send for reprints and clinical test samples.

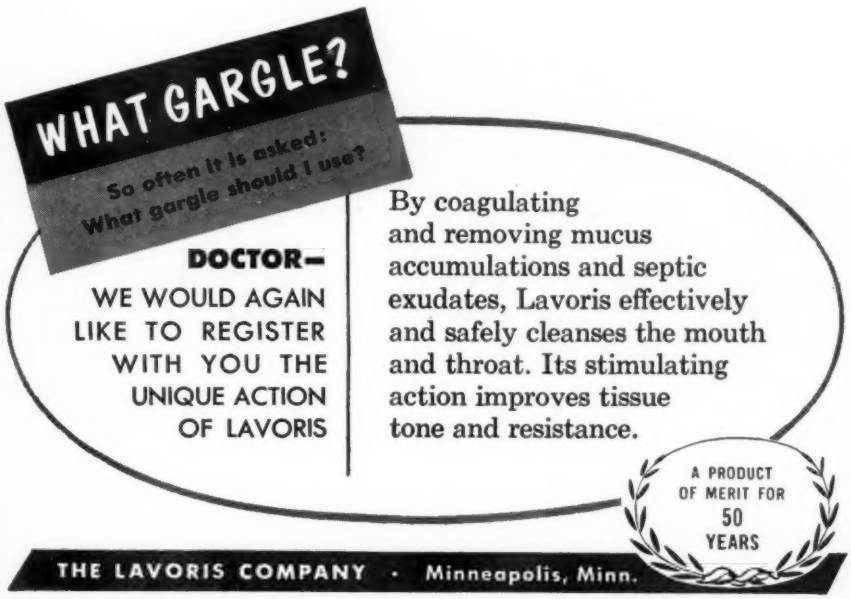
*Steigmann, F., and Goldberg, E., J. Lab. & Clin. Med. *42*:955 (1953).

**Mg trisilicate, 3.5 gr.; Ca carbonate, 2.0 gr.; Mg oxide, 2.0 gr.; Mg carbonate, 0.5 gr.

Continuous gastric anacidity for prompt relief in peptic ulcer, gastritis, hyperacidity, pregnancy heartburn.

HORLICKS CORPORATION
Pharmaceutical Division • RACINE, WISCONSIN

Schering Corporation
Oreton; Gynetone; Estinyl; Progynon; Pranone; Proluton; Cortate A-110-111
Searle, G. D., Company
Pro-Banthine A-1
Sharp & Dohme, Div. of Merck & Co., Inc.
Altepose ..... Second Cover
Redisol A-12
Alflorone A-17
Mephyton A-65
Pyridium A-125
Urecholine A-143
Tetrazets ..... Third Cover
Sherman Laboratories
Protamide A-16
Sieber Hotel A-95
Smith, Martin H., Co.
Expasmus A-105
Smith-Dorsey
Rauvera A-97
Rautensin A-99
Crystoserpine A-101
Smith, Kline & French Laboratories
Teldrin A-6
Thorazine A-122-123
Squibb, E. R., & Sons, Div. Mathieson Chem. Corp.
Florinef A-23
Strasenburgh, R. J., Company
Strascogesic A-84
Stuart Company, The
Orexin A-69
Theron A-80-116
U. S. Vitamin Corp.
Vi-Aquamin A-24
Upjohn Company, The
Mycifradin A-59
Verdolyack, A. G., Inc.
Paper Specialties A-132
Wampole, Henry K., & Company, Inc.
Clortran; Butadonna A-78-79
Warner-Chilcott Laboratories
Peritrate A-129
Welch Allyn, Inc.
Professional Flashlight A-86
White Laboratories, Inc.
Lactofort A-2-3
Mol-Iron Panhemic A-67
Winthrop-Stearns, Inc.
Hypaque A-8
Wyeth, Inc.
Ansolysen A-114-115
Year Book Publishers, Inc.
Medical Books A-13


WHAT GARGLE?
So often it is asked:
What gargle should I use?
DOCTOR—
WE WOULD AGAIN LIKE TO REGISTER WITH YOU THE UNIQUE ACTION OF LAVORIS
By coagulating and removing mucus accumulations and septic exudates, Lavoris effectively and safely cleanses the mouth and throat. Its stimulating action improves tissue tone and resistance.
A PRODUCT OF MERIT FOR 50 YEARS
THE LAVORIS COMPANY · Minneapolis, Minn.

new IRON-PLUS formula

The right amount of iron
+
Anti-pernicious anemia activity
+
Essential nutritional factors

new 2-A-DAY dosage

For iron-deficiency, nutritional and pernicious anemias

new SMALLER size

—and so easy to swallow

more ECONOMICAL

Dosage supply lasts 50% longer than 3-a-day treatment

new Iberol®

filmtab

2 IBEROL *Filmtabs contain:*

Elemental Iron *(as Ferrous Sulfate)*	210 mg.
+	
BEVIDORAL® *(Vitamin B_{12} with Intrinsic Factor Concentrate, Abbott)*	1 U.S.P. Oral Unit
+	
Folic Acid	2 mg.
Ascorbic Acid	150 mg.
Liver Fraction 2, N.F.	200 mg.
Thiamine Mononitrate	6 mg.
Riboflavin	6 mg.
Nicotinamide	30 mg.
Pyridoxine Hydrochloride	3 mg.
Pantothenic Acid	6 mg.

Abbott

503105

NEW! 'Tetrazets'

BACITRACIN-TYROTHRICIN-NEOMYCIN-BENZOCAINE TROCHES

broader attack to overcome minor throat irritations

MAJOR ADVANTAGES: Combines 3 antibiotics to fight both gram-positive and gram-negative bacteria. Benzocaine included for soothing effect. Little danger of sensitization.

'TETRAZETS' quickly relieve minor mouth and throat irritations

It's new—a single troche containing 3 potent antibiotics (bacitracin, tyrothricin, neomycin) to combat afebrile oral infections.

'TETRAZETS' offer you the ideal topical treatment of minor irritations of the oral cavity.

In deep-seated infections, such as Vincent's infection, tonsillitis and streptococcic sore throat, 'TETRAZETS' may be used as an adjuvant to parenteral antibiotics.

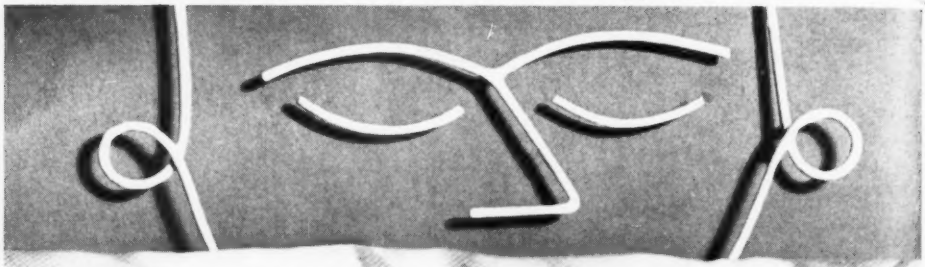
Before and after tonsillectomies, 'TETRAZETS' help combat secondary invaders.

Supplied: In vials of 12. Each 'TETRAZETS' troche contains 50 units of zinc bacitracin, 1 *mg.* tyrothricin, 5 *mg.* neomycin sulfate with 5 *mg.* benzocaine.

SHARP & DOHME

Philadelphia 1, Pa.
DIVISION OF MERCK & CO., INC.

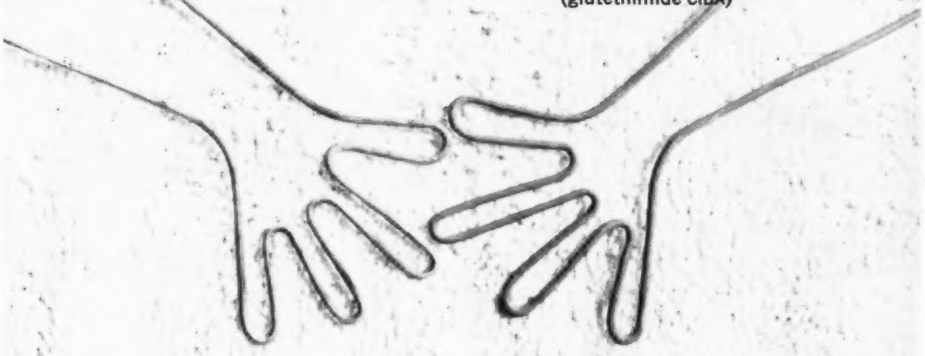
Now . . . a totally new nonbarbiturate hypnotic-sedative!



for a good night's sleep with clear awakening

DORIDEN®

(glutethimide CIBA)



In most cases—

Rapid onset—15-20 minutes
Lasts 4-8 hours
No hangover

Dosage: 0.25 to 0.5 Gm. before bedtime.

Scored 0.25- and 0.5-Gm. tablets.

C I B A Summit, N. J.

2/2075M